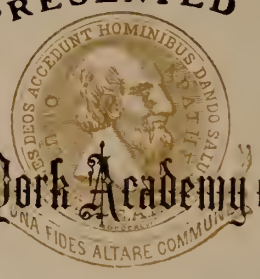


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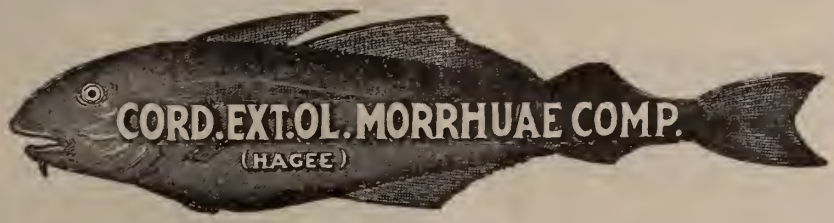
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ORIGINAL ARTICLES.

THE DIFFERENTIAL DIAGNOSIS OF SCARLET FEVER, WITH SPECIAL REFERENCE TO THE SCARLATINIFORM ERUPTIONS.*

BY

GODFREY ROGER PISEK, M. D.,

New York.

Notwithstanding the recent notable advances that have been made in bacteriology, little or no progress has been made establishing the etiological factor in scarlet fever, in spite of the enormous amount of research work that has been devoted to it. Undoubtedly if the causative agent could be isolated and studied, a renewed interest would be generated in this disease and a more satisfactory method of diagnosis and treatment mapped out. Meanwhile we can clinically study with care and minuteness the phenomena of this widespread disease, and thus perfect our ability to make an accurate and an early diagnosis. This is a necessary requirement, for the disease is treacherous and dangerous. Its complications only too often leave their permanent mark upon the patient. The infection may be made possible from a false sense of security obtained from an error in diagnosis, in other words the stamp of immunity may be placed upon an individual who subsequently may expose himself to scarlet fever with dire consequences. Likewise much injustice may be done by confusing an erythema for example, with scarlet fever. A child may be, in the case of the poor, sent to a hospital for contagious diseases, and unjustly exposed to virulent cases. From a material standpoint financial loss may be occasioned by the quarantine regulations involving the patient and family. How far-reaching might be the consequences of a mistake in the household of a dairy farmer, goes without the saying. The health officer who is called upon to decide the suspicious case for the conscientious practitioner, is usually inclined to act on the assumption that the disease is scarlet fever and usually rightly throws his influence for the benefit of the public and against the patient.

It will be the purpose of this article to emphasize the features which have been distinctly helpful to the writer in making the diagnosis and differentiating the true disease from the confusing scarlatiniform erythemata.

At the outset it should be clearly understood that the diagnosis should not be founded on the rash alone. The history and all the clinical data obtainable should be taken into consideration. Further it should be recollected that mild types of scarlet fever are quite as dangerous as the more serious types. If the examiner then approaches the patient with the salient features of scarlet fever and its congeners in mind, and procedes systematically in his examination, the differentiation can be more readily and satisfactorily made. It would be superfluous to burden you with a lengthy word picture of scarlet fever. Only such symptoms and descriptions of phenomena will be given as are helpful in the differential diagnosis.

The average simple case of scarlet fever will be characterized by its abrupt onset, initial vomiting, sore throat, disproportionately rapid pulse rate, palpable tender glands, and a rash which appears usually within twenty-four hours after the initial symptoms. During defervescence we observe the "raspberry tongue" and later the desquamation. If this description applied to all cases, my efforts would be unnecessary; but we know that the infection may vary in its severity from the so-called mild type to the toxic or rapidly fatal variety. The symptoms that are of considerable diagnostic import to us in the initial stage, are the vomiting, the angina and the rash. Vomiting occurs with greater frequency in the beginning of scarlet fever than in any other of the eruptive diseases. Careful examination of the throat at this time will show a well marked congestion of the velum, of the palatine arches and the tonsils, which also may be somewhat hypertrophied. Sometimes with a good light, one is able to see puncta on this

*Read before the Vermont State Medical Society, Rutland, Oct. 22-23, 1908.

congested background. The constancy of this scarlet fever throat is what marks it as a distinct aid, for otherwise there is nothing particularly characteristic in its appearance. The tongue will appear thickly coated and is of no aid in the early diagnosis, until the papillae begin to enlarge.

The Rash. The development of the rash usually after twenty-four to forty-eight hours, offers considerable information of value in differentiating scarlet fever from the confusing erythematous eruptions. The examiner should place his patient in a good white light. A magnifying glass, and a glass slide, such as is used for blood and sputum, will be found to be exceedingly helpful in studying the exanthem. The rash first makes its appearance on the sides of the neck, upper part of the chest and face, thence spreads to the arms, upper part of the back and finally involves the trunk and lower extremities. Its color is not scarlet, but a dull red, almost a brownish red. This color varies proportionately to the fever, being more marked usually in the evening. The general characteristics of this rash about to be described, will always be found present in a true case of scarlet fever, even though certain modifications or variations are observed. Close inspection of the rash resolves it into two factors, which are constantly present: (1) an erythematous background; (2) small, deep-red, injected puncta. Sometimes variations in the rash just described are present which give a diffuse, a mottled or a speckled appearance. These changes are caused either by the closer merging or by the non-extension of these puncta with their erythematous areola. A normal or pale flesh tint is seen on pressure with a glass slide early in the disease, while later there is a dirty, yellowish red pigmentation. Itching is quite a constant symptom, but is more marked when many groups of miliary vesicles are present. At the height of the eruption, it is often possible to find small pin-point, conical, whitish vesicles, with a serous content over the chest and lower abdomen. When they occur in groups about the axillae or in the groin, they are quite confirmatory from a diagnostic standpoint. The harsh, uneven feel which the rash occasionally gives to the hand passed over the skin, is due to papular or even vesicular elevations occuring at the sites of the hair follicles. This papulation affords another valuable aid, as it does not disappear with the erythematous rash, but the roughness of the skin persists after it has faded.

Certain regional characteristics are present in this exanthem, which if appreciated, tend to help the puzzled physician. The face, for example, shows the true rash only on the temples; the cheeks are diffusely red, but the nose, chin and upper lip appear unduly pale, causing a circumoral pallid ring which should be sought for in suspected cases, as it is not present in the counterfeiting rashes.

The flexor surfaces of the joints deserve careful scrutiny and special mention. These regions rarely exhibit the characteristic rash; they are apt to be the site of petechial hemorrhages or else they have a blotchy appearance.

If the palms and soles are examined with a magnifying glass, no puncta are seen, only a simple erythematous blush.

Desquamation. In the exfoliation of scarlet fever we expect to find it occurring in the order of the appearance of the exanthem. At first there are observed fine discrete scales in the infra-clavicular and episternal regions. These scales are made up of the epidermal covering of the above described puncta and vesicles. When desquamation first occurs flakes having a perforated center are cast off. This is known as "pin-holing." These scales are quite characteristic and have often assisted the writer in fixing the diagnosis at this stage of the disease. Later, and continuing from five to six weeks, the skin becomes rougher, throwing off irregular rings of desquamation of varying extent. The large strips of epithelium and casts of the hands and feet which are sometimes shed or torn away are more often seen in those subjects who have a skin of coarse texture.

Another diagnostic feature of this stage of desquamation is seen in the finger nails. If the pulp is pushed back from the nail, there will be seen just beneath its free border, a scaling or cracking line which extends up to the fingers. Four or five weeks after the beginning of the disease, we may find a transverse linear groove sometimes with a corresponding ridge, which shows itself on the roof of the nail. The thumb nail exhibits this condition better than the fingers. These nail changes serve as corroborative evidence in the subsequent diagnosis, and this desquamation may be seen on the nails when other evidences are not found elsewhere. On the other hand it must not be forgotten that

the desquamation may be so slight as almost to escape notice. Unfortunately, desquamation alone is often regarded as sufficient evidence of the disease, and a diagnosis is based thereon. It seems to me that, in view of the fact that so many of the erythematous eruptions produce skin exfoliation we are not justified in this conclusion, unless we have (1) the regional involvement, (2) the pin-holing and, (3) the nail changes, plus other pertaining clinical symptoms.

A close study of the tongue and the blood is worthy of our purpose of differentiation. The tongue in the first days is usually thickly coated, and the papillae are obscured, but as the tongue clears up at the edges and tip, we can observe the enlarged papillae—which become more and more prominent and are best seen about the fourth day. The lingual mucous membrane now begins to exfoliate. The tongue becomes red, dry and glistening. It is in the post-eruptive stage that this feature is particularly of diagnostic importance.

The Blood—in scarlet fever has been carefully studied, and may be of service in obscure cases, as an additional confirmatory link. The red blood cells are gradually diminished throughout the course. A leucocytosis is present a day or two before the appearance of the rash, and the normal is regained only in convalescence. We have found this leucocytosis to be proportionate to the severity of the angina. The polynuclears are increased and the mononuclears decreased, both relatively and absolutely. To the eosinophiles we may look for some rather characteristic variations. In the initial stages they may disappear almost entirely, while in defervescence, and as late as the sixth or seventh week 8 to 12% may be counted.

THE ERYTHEMATA.

Erythematous eruptions which may simulate the rash of scarlet fever are quite common; and if a careful examination and study of the rash is not made, weighing with it all the clinical evidence, mistakes are easily made. The simple form of erythema results from external irritants, while the exanthem of angio-neurotic origin results either from systemic disturbance, ingestion of certain drugs, or from specific poisons. These fortunately have certain characteristics which should be borne in mind by the examiner, for while we are not always able to distinguish them one from the other, the differentiation from scarlet fever may be thus made possible.

One of their striking features is the tendency to recurrence, and undoubtedly many of the so-called second and third attacks of scarlatina have been in this class. In a general way these dermatoses are distinguished by the following peculiarities: They may appear in any region of the body and at one time there may be present in the erythema elements of the various exanthemata. Their type may rapidly change so that they may be scarlatiniform one day and morbilliform the next. The puncta seen in the scarlet fever exanthem are absent. Desquamation is coarse and flaky and recurrences are frequent.

Eyrthema Scarlatiniforme: This is a non-contagious dermatitis, simulating scarlet fever in its cutaneous manifestations. It is liable to occur secondarily to other infectious diseases and to medicinal and food intoxications. As it is important to differentiate the disease from scarlatina, its distinguishing features will therefore be given.

This erythema spreads very rapidly, sometimes reaching its height in a few hours. Patches of erythema may alone be present. Under the glass there is no uniform redness. The face is rarely involved and the tongue shows no "raspberry" appearance. The fauces may be red but are not swollen. Desquamation takes place at an early date after the erythema, sometimes on the second day; it is a quick process and the scales are large, abundant, and furfuraceous. The course is brief, and there are no complications or sequelae. Such a clinical picture especially in a person who has given a history of previous similar attacks, should exclude scarlatina.

A scarlatinoid erythema may follow the use of such drugs as belladonna, quinine, chloral, chloretone, salicylic acid, antipyrin, digitalis, opium or veranol, especially in those patients having a drug idiosyncrasy. These eruptions almost invariably follow very quickly after the ingestion of the drug. We have seen it occur within an hour after a dose of antipyrin. The close relationship to the drug taking is a diagnostic feature of considerable value. Belladonna rashes are perhaps most often seen. This eruption is usually confined to the face, neck and chest and is only rarely generalized. It fades quickly and is rarely followed by any

desquamation. The absence of fever, the dilated pupils, the evanescent rash and the history should cause no confusion.

It is well to recollect that drug rashes in general, and in contrast to scarlet fever, appear for the most part on the extensor surfaces of the extremities, and if they be present on the face, then the circum-oral ring is not observed. Moreover they are not associated with fever, angina, or adenitis.

If any doubt still exists, the repetition of the dose of medication under suspicion should be given to reproduce the erythema.

Acute Exfoliative Dermatitis: Another disease which may raise a veritable doubt in the stage of efflorescence or in the desquamative period is acute exfoliative dermatitis. It differs in that the constitutional symptoms are more pronounced than in scarlatinoid erythema, while the eruption appears as a general hyperemia very soon covering the entire body. The exfoliation follows in a day or two and is general in character and intensely profuse, large papery strips being cast off. The nails and hair may drop out before the process is complete.

Another disease which necessitates correct interpretation is the scarlatiniform variety of rubella; fortunately this is not a common type. Close inspection of the rash will disclose morbilliform characteristics. The mild constitutional symptoms and the enlarged post-cervical glands of rubella will define it.

Serum Rashes: The use of antitoxic serum may be productive of a scarlatinoid rash that is very puzzling. This is especially true when antidiphtheric serum has been injected. The angina of the diphtheria is already present and cannot assist us while fever and malaise supervene. We must then depend upon the following facts:

That the rash frequently spreads from the site of the infection; that these are often polymorphous in character and fleeting in duration. They appear on the third or fourth day, the eruption occurs usually in patches and only rarely appears on the face. A well marked enlargement of the superficial lymph glands in the inguinal axillary, and epitrochlear regions will also help to distinguish this rash from scarlatina.

Those of us who are doing work in children's hospitals, are struck with the number of cases of scarlatinal infection which occur in the surgical wards. Open wounds and especially burns are liable to direct inoculation. Many of the so-called cases of "Surgical Scarlet" of the older writers were probably scarlatinoid erythemas or what we now recognize as septic rashes. The necessity for the removal of such suspected cases from the wards is often a serious question. For our guidance in differentiation the wound is of considerable help; an erstwhile healthy wound may begin to look unhealthy, and an exudate may form upon it. The rash is very likely to first appear at or near the wound. The nearest lymphatic nodes will be found tender and enlarged. Vomiting may occur, but sore throat is rarely complained of. There are no characteristic changes in the desquamation.

The septic rashes which were referred to above, occur more often in early life, and either precede or accompany a definite septic pyemia. Occasionally they may be the first to call attention to the true condition of the patient. When the rash is small and macular, it may resemble scarlet fever. Its spotted character and the large macules which are seen on the extensor surfaces of the extremities with absence of puncta, fix the diagnosis. A high leucocytosis would be confirmatory. From erysipelas, scarlatina can be distinguished by the shining glazed appearance and characteristic spreading. The Fourth or Duke's disease is of interest in this connection, because of its confusion with scarlet fever provided we accept the dictum that attacks of the Fourth disease do not protect the individual against scarlet fever and measles. Cotton who had a good opportunity to study the disease, accepts it as an entity. The disease is described as differing from scarlet fever in its longer incubation period, absence of prodromal symptoms such as vomiting, high pulse rate and severe angina. The rash itself shows but little difference except that it usually begins on the face and is not extensive. The desquamation, however, is profuse and out of all proportion to the exanthem. Renal complications do not occur.

Diagnosis at various periods: As the practitioner is often called upon to offer a diagnosis at different stages of the disease, the distinctly helpful phenomena to be observed at various stages in scarlatina will be given.

Pre-Eruptive Stages: Here the diagnosis is only rarely possible and then it can be made only in the presence of an

epidemic and a history of contagion. The sudden invasion with an angina, bright red puncta seen in the roof of the mouth, and initial vomiting without satisfactory cause, may be symptoms anteceding the eruption.

Eruptive Stages: The diagnosis is at this period rarely obscure. The vomiting, high pulse rate, characteristic punctate rash, congested fauces and evidences of the "raspberry" tongue are usually conclusive.

Pre-Desquamative Stage: The rash has faded or disappeared, and desquamation has not yet begun. Here the distinctively glazed, papillated tongue and the injected fauces are seen. The enlarged lymphnodes beneath the axilla are tender to the touch. The skin looks dirty yellow under a glass slide and has a distinctly dry and uneven feel. Sudamina or miliary vesicles may be present in groups.

Desquamative Stage: When the disease is seen late, exfoliation, beginning on the face, may be found on the fourth to the sixth day of the disease, and on the neck and chest about the twelfth to the fourteenth day, this possibly serving to differentiate it from scarlatiniform erythemas.

Pinhole scaling on the body and the lines on and beneath the finger nails, strengthen the diagnosis. It is not uncommon to find still further corroborative evidence at this stage in complications of the kidneys, joints, in the ear or suppurating cervical glands.

In spite of our closer clinical study there will still remain a few indefinite cases that will require isolation for safety and time for further observation. Without more definite bacteriological aid we must to-day place our reliance on a clear conception of the differential diagnosis.

DISCUSSION OF DR. PISEK'S PAPER.

Dr. E. R. Clark. I have been greatly interested in this paper this afternoon. I wish to say that differential diagnosis of scarlet fever is assuming greater importance in my mind than it has heretofore. There are several reasons for this and one is the importance of furnishing pure milk to our larger communities. No one can estimate the importance of pure milk for any community. As long as a man bought milk of his next door neighbor, it perhaps was not of the importance it is now. But New York and Boston are coming two and even three hundred miles for their milk supply. Now not only for the consumer but for the producer, it is of the utmost importance, that the diagnosis of these eruptive diseases should be made with the utmost caution. We know that these diseases are carried more or less from place to place by cans and by the milk itself. The second point is the matter of enforcing the quarantine. It seems to me that these matters should be carefully looked after. Too many medical men take a narrow view of the quarantine regulations and so indirectly hinder the carrying out of proper restrictive measures. I am very grateful for the paper which we have had on this subject this afternoon.

Dr. J. H. Blodgett. The question is often raised by the laity—can a patient have scarlatina more than once? A second and even a third attack of the disease has come under my notice in the same patient. The attacks succeeded each other with no interval between them and were occasioned by placing a fresh case in a ward containing only convalescent patients. Such an experience suggests the wisdom of keeping fresh cases apart from convalescent ones in the home, at least, during the acute symptoms. Again, we have been taught that a punctate eruption on the roof of the mouth with elevation of the papillae of the tongue, particularly of the tip can mean only scarlatina. Such a condition may occur in lagrippe together with an erythema on the trunk. The point of differentiation here must be the condition of the skin. In scarlatina it is dry and rough. In lagrippe it is hot, soft and bathed in moisture. These remarks have reference to early symptoms in both diseases.

Dr. Eddy. During my number of years of practice, I have been with scarlet fever in different stages. One of the worst cases I ever saw was contracted from a very light case. A child between ten and twelve years of age had scarlet fever in the spring. He went through all right. The next fall he had the same disease. Being in doubt, I requested a consultation. I had another physician called in and he wanted to know what the trouble was. I told him to go and see for himself. He went and looked the case over and turned around to me and said "Don't you know what you have got?" "What it is?" said I. He said "Scarlet fever plain enough." I said, "Well, he had that disease last fall." I took care of the patient and did the same thing in the treatment this time that I did the spring previous. I believe it was the same disease. It is my opinion from what I have seen, that it is possible to have scarlet fever more than once.

Dr. C. H. Beecher. What do you consider the relative importance of desquamation in nose and throat of a child and the contagiousness of scarlet fever?

Closing Discussion by Prof. Godfrey R. Pisek. With regard to Dr. Clark's enquiry. The domestic animals often carry contagion through the milk. The cat or dog has been allowed to play with a sick child; then it runs into the barn and laps the milk in the milk pail depositing more often than not, bacteria which are carried to the consumer. It is very necessary, therefore, to make a direct diagnosis early and isolate the suspicious child.

With regard to Dr. Blodgett's remarks, I will say we have plenty of literature which gives us information on the subject of recurrence of the scarlatiniform eruptions. Lobek cites a personal instance. He had been exposed several times and did not contract the disease. Later he cut himself, was exposed and contracted scarlet fever. When we place a child in a ward, the chances of infection are greater.

Dr. Dalton's question is—how long the danger lasts and the conveyance of this danger. All the damage is done early. When desquamation takes place, the danger is already minimized.

Dr. Holton—how long would you keep a patient isolated? Until the scales are all gone. Thorough washing of the palms of the hands and soles of the feet help this process along. We have always felt that the scales may carry the disease.

COLITIS, SIGMOIDITIS AND RECTITIS, WITH SPECIAL REFERENCE TO THE IMPORTANCE OF THE PROCTOSCOPE IN THEIR TREATMENT.*

BY

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It is often possible with the newer methods of examination, to define within certain limits, what portion of the large intestine is chiefly involved in a given inflammatory process. While an intestinal catarrh may extend from the cæcum to the anal orifice, it is more common to find it limited to some part of the large intestine, as the rectum or sigmoid flexure.

If the inflammation is limited to a portion of the intestine, situated so as to render treatment per rectum feasible, it is obvious that an attempt should be made at exact diagnosis. Doubtless, in the majority of cases the whole of the large intestine is more or less involved in the inflammation, yet the more urgent and distressing symptoms are due to lesions of the rectum or sigmoid.

We designate, for convenience, a catarrhal inflammation of the rectum, rectitis; of the sigmoid, sigmoiditis; of the colon, colitis. Likewise, when two or more portions are similarily involved, they may be definitely referred to as recto-sigmoiditis, (inflammation of the rectum and sigmoid); sigmo-colitis, (inflammation of the sigmoid and colon); and recto-sigmo-colitis would indicate disease of the entire large intestine.

ACUTE RECTO-SIGMO-COLITIS (including rectitis, sigmoiditis and colitis.

Etiology. Simple, acute inflammation of the large intestine of catarrhal form may have a common origin with similar conditions in the mucous membrane of other portions of the body. Some individuals appear particularly susceptible to reflex disturbances, and chilling the body, especially the abdomen or buttocks, is sufficient to bring on an attack of acute inflammation For others the irritating ingredients contained in cathartics, or in certain foods or drinks are all that are required. Parasites, impacted feces and foreign bodies, by producing slight wounds and abrasions may cause bacterial infection of the mucous membrane. The bacteria, which are always present in the large intestine, are the colon bacillus, streptococcus and staphylococcus. Ordinarily they are non-pathogenic. Other bacteria which have been found in the lower bowel are the ameba of dysentery, the cholera virbria, the typhoid, tuberculous, dysenteric bacilli, the gonococcus and pneumococcus and anerobic proteolytic bacterium.

In a catarrhal inflammation there is, first, a hyperemia and outpouring of serum, leucocytes and red cells. This extravascular exudation passes into the substances of the mucous membrane, causing it to become swollen and edematous. The mucin-forming function of the membrane is stopped temporarily, but afterwards increased.

Later, proliferation and desquamation of the epithelium takes place. This desquamation may go on to such an extent as to cause small erosions which, becoming infected, give rise to ulcers.

At this stage the mucus is increased and this, together with the increased leucocytes, gives rise to a muco-purulent discharge; or, when the leucocytes are very much increased, to a purulent one.

Microscopically, the discharge shows pus cells, epithelium, and a few red cells, together with the bacteria commonly found in the bowel.

Symptoms. The most conspicuous symptom of acute catarrh of the large intestine is diarrhea, that is, frequent stools that are abnormal in character. Concomitant symptoms are general prostration, loss of appetite, coated tongue, slight increase of temperature and pulse rate. The symptoms vary somewhat depending on the portion of the bowel chiefly involved.

Acute Rectitis is characterized by sensations of heat, weight and fulness in the rectum. There is also an aching, throbbing pain often reflected to the sacrum, down the limbs or to adjacent organs, such as the bladder, evolving in the latter case a frequent desire to micturate.

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Associated with these symptoms there is an almost constant desire to empty the rectum, with severe tenesmus and "colicky pains" in the left lower abdomen. In inflammation of this region the discharges are composed principally of an admixture of mucus, blood and pus. The amount of fecal matter is not notably increased but is passed as scybala surrounded by the rectal secretions to which we have just alluded.

In Acute Sigmoiditis with but little or no involvement of the rectum the distressing tenesmus and constant straining at stool are not such marked symptoms. More relief is experienced after going to the toilet, and the diarrheal dejections show a considerable difference in regard to their minor characteristics. Their number is not nearly so many, varying from two or three to ten or more, while in the Acute Stage of Rectitis the patient is constantly at the toilet.

The consistency of the stools is more watery and not so scybalous. Mucus, blood or pus when evacuated is more apt to be mixed or at least the colour changed by contact with feces. There is usually though not always, paroxysmal pain over the course of the flexure. The pain is referred more to the back and not to the sacrum and lower extremities as in rectitis.

On palpation the sigmoid region is sensitive and deep pressure produces considerable discomfort.

Acute Colitis. Isolated catarrh is more common in the rectum and sigmoid than in the colon. It is probably only in rare instances that an acute colitis exists without the sigmoid and rectum being more or less implicated. The subjective symptoms of colitis are so similar to those of sigmoiditis that it is scarcely practical to make any distinctions.

Physical examination will show areas sensitive to pressure over the lateral portions of the abdomen, corresponding to the course of the colon. This tenderness in some cases is even more marked over the hepatic and splenic flexures.

Diagnosis. The rectum and sigmoid should be examined in all cases in which the symptoms indicate a severe type of inflammation. The whole of the rectum and the greater part of the sigmoid can be inspected and the diagnosis so far as these organs are concerned, easily determined.

Upon sigmoidoscopic examination the mucosa appears red and swollen and because of the close apposition of the mucous surface there are numerous granular and congested areas. When the secretions are wiped away from these spots they bleed very readily and they are frequently the site of superficial ulcers.

In ordinary cases the secretions observed consist of mucus, sometimes tinged with blood; but in the severer types the discharge becomes purulent, and infection of the solitary and agminated follicles is followed by numerous small, round, superficial ulcers.

Treatment. The majority of the milder cases, especially if the rectal symptoms are not pronounced, need only dietetic treatment and rest in bed. A liquid diet, composed principally of barley water and oatmeal gruel, together with beef, lamb and chicken broths is generally regarded as the most suitable food during the acute stage.

Unless there is an impaction of feces in the rectum or sigmoid it is well to begin treatment with calomel grs 2½ (in ten quarter grain doses every half hour) followed by a saline or in place of this a large dose of castor oil may be given. A thorough cleansing of the bowels acts favorably upon the existing diarrhea, by removing any irritating ingesta or inspissated feces that may not up to this point have been expelled.

In all cases in which the symptoms lead one to suspect a more extreme grade of infection or if the examination has revealed such a condition, local treatment should at once be commenced. This is important to relieve the more distressing symptoms of the patient such as tenesmus and pain and also to prevent the acute condition becoming chronic. Soon after, or even before the bowels have been emptied by a cathartic, non-irritating rectal irrigations should be begun. These can be given either with a colon tube or from a fountain syringe with the patient in the knee chest posture, when an ordinary rectal tip will suffice.

The amount of fluid used should be from one to two quarts and should be allowed to run in gradually and slowly. If too much pressure is maintained by hanging the irrigator more than a foot or two above the level of the hips the patient will be unable to retain sufficient fluid to properly cleanse the gut. I prefer for this purpose bland and non-irritating fluids such as normal salt solution, bicarbonate of soda (a drachm to the pint), or boric acid (2%).

In about two hours the irrigating fluid will have been passed, leaving a clear field for instrúmental inspection. At this examination the secretions adherent to isolated congested areas should be wiped away and followed by an application of nitrate of silver (30 grains to the ounce).

If the condition be simply one of catarrhal inflammation or if the eroded surfaces are widely distributed throughout the rectum and sigmoid, the whole of these cavities may be painted with a weaker solution (10 grains to the ounce).

Some prefer argyrol 10%, protargol 10%, ichthyol 15% in glycerine, balsam of Peru 15%, in castor oil. Powders such as aristol, boric acid, calomel or bismuth applied directly or insufflated all over the rectal wall, are highly regarded by some writers. In my practice the solutions of silver and ichthyol have proved the most serviceable.

The saline irrigations should be administered daily, preferably just after a movement of the bowels, and the local applications continued at intervals of three or four days until all localized lesions have disappeared.

When the catarrhal inflammation extends to the anal margin as it frequently does, it has invaded particularly painful territory. The mucous membrane of this region is thin and more friable, and consequently congestion is soon followed by numerous, fissured like abrasions of the anal canal. The sphincters are in an irritable and spasmodic state and, the mucous membrane being swollen, it is often prolapsed by constant straining. At times there is an almost intolerable tenesmus and I have seen cases of very extensive prolapse of mucous membrane and two cases of procidentia occasioned by excessive straining, the sphincters at last becoming paralyzed. These complications rarely require any surgical intervention, except strapping the buttocks as in the cases I have seen, the sphincters regained their lost power after the violence of the attack had subsided. To relieve the painful tenesmus and prevent this complication, such remedies as the injection of small quantities of laudanum and starch water, flaxseed tea, olive oil, or an opium and belladonna suppository should be tried.

A continuous irrigation with the Kemp rectal syringe of either hot or cold water, depending on the wishes of the patient, very often affords much relief.

In extreme cases relief can only be had by dilating the sphincters under general anesthesia or placing the external sphincter completely at rest by dividing all its fibres under local anesthesia.

CHRONIC RECTO-SIGMOID-COLITIS (including rectitis, sigmoiditis, and colitis).

Chronic catarrhal inflammation of the large intestine is probably a more common disease than is at the present time generally admitted. At least, it is fair to presume, that, in a disease in which the less pronounced cases present such a variety of complex symptoms, errors of diagnosis are bound to occur.

Etiology. Much that was said of the etiology of the acute form of this disease, holds true in regard to the chronic condition. Chronic catarrh of any portion of the large intestine may result from failure to cure the acute inflammation. This may be due to the following causes:

(1) A general systemic depression which leaves the mucous membrane in such a weakened condition that over secretion takes place even after all lesions have healed.

(2) Atrophy of the intra-cellular substance of the mucous membrane and obliteration of the mucous follicles, which interferes with the normal secreting and absorbing function of the large intestine.

(3) Undue severity of the acute attack with complications such as numerous erosions and superficial ulcers.

(4) Too early cessation of treatment and indiscretions of diet which result in frequent relapses, each more stubborn than its predecessor.

(5) Coexisting diseases such as tuberculosis, syphilis, Bright's disease, diabetes or other cachectic conditions are sometimes responsible for an acute attack becoming chronic.

Chronic catarrh of the large intestine often gradually develops independently of an acute attack as follows:

(1) It may be secondary to disease of the small intestine, such as enteritis and typhoid fever.

(2) Constipation, chronic impaction, parasites and foreign bodies are all known causes of chronic inflammation.

(3) Polyps, multiple adenoma and papillomatous excresences by their chafing and secreting action on the mucosa are other exciting causes.

(4) An intussusception of the colon or sigmoid, an invagination or prolapse of the rectum by its mechanical action may bring about this condition.

(5) I have on several occasions, noted a decided narrowing of the calibre of the rectum, at the site of the upper valve of Houston. The appearance through the rectoscope would lead one to infer that it is a congenital arrangement of the valve so placed as to partially or almost completely encircle the inner surface of the rectum. This condition should not be confounded with an annular stricture, or Obeirne's sphincter, which it sometimes closely resembles. This I believe, sometimes causes chronic recto-sigmoiditis, at least it has been noted in a few intractable cases.

(6) Among other mechanical causes should be mentioned adhesions, bands, appendicitis, movable kidneys and backward displacements of the uterus.

Symptoms. With certain qualifications much the same may be said of the symptoms of chronic catarrh which we have already noted in considering the acute type. The more urgent and distressing of the acute symptoms, such as tenesmus and severe pain about the lower end of the rectum, have given way to a feeling of weight and discomfort.

In the chronic condition diarrhea is not the most pronounced symptom. In fact, in the typical case diarrhea usually alternates with constipation. The character of the evacuations is abnormal yet they vary little from those described in the acute form, and for this reason we must refer to what was stated in that connection.

In Hypertrophic Catarrh the secretions at times are abundant and cause much annoyance by the irritation they produce about the anus. This discharge is frequently the cause of moist eczema and acute dermatitis of this region attended by pruritus. The discharge may be so profuse as to almost digest away the peri-anal skin, and unless a protective dressing is worn the patient is hardly able to get about. The calls to stool are frequent and the usual feeling of relief after defecation is seldom experienced.

In the milder cases, in which the discharge is not so notably increased, there are unusual sensations from time to time. These sensations are often vague and indefinite and characterized by the patient as either a slight tenesmus, or as a feeling of heat and weight, "a feeling as though there was more to come," or he is "always reminded, by an indescribable sensation, that he possesses a rectum."

In Chronic Atrophic Catarrh constipation is always a marked symptom. It may or may not alternate with diarrhea. As a rule it does not, unless there are superficial ulcerations. The peri-anal skin is blanched and cracks easily. It has been my experience that aggravated cases of pruritus are much more common in this form of catarrhal disease than in the hypertrophic.

According to Tuttle, hemorrhoids and ulceration are a constant complication of atrophic catarrh.

I have only attempted to outline the symptoms in a general way, as they have little weight in determining the correct diagnosis. The symptoms of many of these cases do not differ materially, whether the diseases be a chronic inflammatory condition, mucous colitis, stricture or a new growth. For example, constipation alternating with diarrhea occurs with almost equal frequency in each of the aforementioned diseases. Hemorrhage may occur in carcinoma of the rectum, at the same time it may not, and it is often met with when there is no growth.

Indeed, there are few symptoms, suggestive of disease of the large intestine, that should not be investigated before undertaking any kind of treatment. It is not at all infrequent to find the ulcerative type of chronic catarrh, and even malignant disease, in patients whose subjective symptoms would never lead one to suspect any such condition. At the present time, serious errors of diagnosis are inexcusable, for with a local examination, the nature of the disease can be definitely determined.

Local Examination in Chronic Hypertrophic Recto-Sigmoido-Colitis.—Upon introduction of the finger into the rectum, the walls of this cavity are found to be in close apposition. As a rule, fecal material is not present and the mucous membrane, well lubricated by the increased secretions, feels soft and boggy.

In this variety of catarrh, we observe on instrumental inspection, that the mucous membrane is of a pale red color, sometime described as pinkish. There is much edema and swelling, associated with turgescence of the submucous cellular tissue which limits the calibre of the intestine and renders it less amenable to the usual methods of air dilation.

A sigmoidoscopic examination is sometimes difficult to make on account of this congestion and prolapsing of the folds of the mucous membrane over the end of the instrument.

As in hypertrophic catarrh of the nose or other mucous surfaces the secretions are increased, and consist for the most part of muco-pus. Bleeding and ulceration are rare though both may take place, especially in the follicular type. In this condition the Liberkuhn follicles appear red and swollen and when ulceration supervenes, they present numerous small round ulcers, distributed in isolated groups. They are most commonly found either in the rectum or sigmoid, and since, as a rule, they are not widely distributed local treatment affords much relief.

Chronic Atrophic Catarrh. Digital examination in cases of atrophic catarrh invariably reveals the presence of dry, hard, fecal material, unless the rectum has been previously emptied by cathartics or enemata. In the empty state digital exploration often gives one the impression of a hollow viscus, so widely separated are the walls of the rectum.

The rectal secretions are considerably diminished and the fecal mass often dry and hard. Both these circumstances are factors conducive to erosions and abrasions of the mucous membrane, which frequently terminate in a superficial or even deeper ulceration depending on the nature of the infecting bacteria. The mucous membrane can be made to bleed by simply wiping away the mucus, and small particles of clotted blood are often seen clinging to the rectal wall.

The following scheme may serve to distinguish between hypertrophic and atrophic catarrh.

CHRONIC HYPERTROPHIC CATARRH.

(1) Secretions increased about the peri-anal region—acute dermatitis—moist eczema.

(2) Sphincters somewhat relaxed.

(3) Hemorrhoids an unusual complication. Mucous membrane prolapse more frequent.

(4) Mucous membrane swollen and edematous—prolapses over the end of the proctoscope during examination.

(5) Bleeding from the mucous membrane uncommon.

(6) Mucous membrane moist and of a pale red or pinkish hue.

(7) Ulceration rare.

(8) Inflammatory process rarely limited to rectum and sigmoid. Colon is usually involved as well.

(9) Constipation alternates with diarrhea

CHRONIC ATROPHIC CATARRH.

(1) Secretions absent—peri-anal skin dry and fissured—blanched appearance as in pruritus.

(2) Sphincters usually contracted and hypertrophied.

(3) Hemorrhoids often present. Mucous membrane prolapse seldom seen.

(4) Mucous membrane dry—rectal cavity readily distended and easy to examine.

(5) Mucous membrane bleeds readily—light sponging produces considerable oozing.

(6) Mucous membrane dry and very bright red color.

(7) Ulceration common.

(8) Inflammatory process almost invariably confined to the rectum and sigmoid.

(9) Constipation is generally the rule.

Treatment. The treatment of these two forms of catarrh varies sufficiently to warrant their being considered separately.

It is in the *Hypertrophic* variety, almost exclusively, that we frequently have to deal with mechanical problems such as floating kidneys, displaced uteri or adhesions binding down, or constricting, portions of the large intestine. The paramount difficulty is to determine the relative importance of these abdominal abnormalities and to decide whether they are really the exciting cause. An exploratory incision has come to be regarded as a legitimate method of diagnosis, and is attended with little risk, still I believe, that unless the cause is very obvious, it is seldom wise to advise any serious operation, or even the incision, before dietetic and local measures have been tried. A strict dietary regime, which must be adapted to the special requirements of each individual case, in conjunction with lavage of the bowel and the modern exactness of local treatment, will cure or at least relieve a good percentage of these catarrhal conditions.

Treatment of Chronic Hypertrophic Recto-Sigmoido-Colitis; Diet. No hard and fast rules can be laid down as regards the diet. The peculiar susceptibilities of some people to certain articles of food, must be given due consideration.

A milk diet, especially when diluted with French Vichy, is very beneficial in some cases, while in others it is very constipating, producing

the hard "nanny goat" stools, which by their traumatic action aggravate the catarrhal state. Nutritive gruels made from oatmeal, barley, rye or cornmeal, alternated with strained soups of lamb, beef or chicken will prove more satisfactory in the latter class. This limited liquid diet is recommended for the first few days of treatment as it is most essential to give the large intestine complete rest. It is even advisable, for the first week, to order absolute rest in bed in all but the mildest cases. The bowel is at rest, only when free from fecal accumulations, and for this reason I order, at the outset, calomel one-half grain, combined with one-sixth of a grain of denarcotized opium, to be repeated every three hours, until the bowels have been freely evacuated.

Another combination, which may be used for the same purpose, is sulphate of magnesia two ounces, dissolved in a tumbler of water. To this may be added, a level teaspoonful of bicarbonate of soda: of this mixture give a tablespoonful every half hour until free watery movements ensue.

As regards the time that this restricted diet should be insisted upon, the patient should be told that it is absolutely necessary for a week or ten days, in order to afford local treatment per rectum a fair prospect of cure. Gradually, a full diet including such articles of food, as chops, steaks, broiled fish and eggs should be resumed. Vegetables rich with sugar and starchy elements must be avoided. It is unnecessary to mention them here, for they are given very definitely in numerous textbooks. It is often advisable to increase the amount of fats. This may be accomplished with butter and cream, together with the use of olive oil, in salad dressings. Boiled rice is a wholesome article of diet and is especially indicated in this condition. The use of distilled liquors should be forbidden and only moderate amounts of claret and white wines permitted. Those who are in the habit of taking only small amounts of water, should be encouraged to drink freely between meals.

Local Treatment. It has been argued (Metchnikoff) that the colon is simply a receptacle of refuse undigested matter and can be dispensed with so far as our physiologic necessities are concerned. The operation of "short-circuiting" the colon (anastomosing the ilium with the rectum) supports this theory and has proved that sufficient digestion and assimilation is carried on in the stomach and small intestines to supply the physiologic essentials for human existence.

However we may regard this interesting problem, it is doubtless true that the large intestine is called upon to absorb only a very small portion of the nourishing elements contained in the food we consume. Hence it follows, that when this limited function is still further curtailed, by such a condition as chronic hypertrophic catarrh, it is unable to perform properly even its restricted economic part in the process of digestion.

The result is that the refuse products contain small amounts of undigested food and together with the excessive mucus, afford a good culture medium for the growth of the numerous micro-organisms which normally inhabit the colon.

The object to be attained in the treatment of this variety of catarrh is to free, and keep free, the large intestine of its accumulations of feces and putrefactive material for such time as is necessary to allow the mucosa to resume its normal condition and functions.

For this purpose we rely chiefly on recto colonic lavage, and not so much on topical applications as in the atrophic variety, for the inflammatory process is seldom confined to the rectum or sigmoid.

In the commencement of treatment, after the bowels have been freely moved with a cathartic, a large enema of normal saline solution should be administered. This may be given with the patient either in the knee chest position, left lateral semi-prone or on the back. When either of the two latter positions are employed, it is of material advantage to elevate the hips at least a foot. The irrigator is placed eighteen inches above the level of the anus and the flow further regulated by pressure on the connecting tube when there is a desire to defecate, before sufficient fluid has been administered. This uncomfortable feeling is due to the over distension of the intestine at certain points, when the onward flow is interrupted either by the normal sacculations or spasmodic contraction of the circular fibres. This sensation will soon pass away, if the inflow is withheld for a moment, so as to permit the solution already within the gut to advance. Changing the patient from side to side and gently kneading the abdomen will facilitate the distribution of the irrigating fluid. If these precautions are observed, the majority

of cases will retain sufficient solution to thoroughly flush the large intestine even as high as the cecum.

Among other available non-irritating solutions that are well adapted for use in the same way are boric acid 2% and bicarbonate of soda a drachm to the pint. Later, solutions such as the following may sometimes be employed with much benefit, argyrol 0.2; nitrate of silver 1 to 8000; extract of hydrastis, 2% solution; and the aqueous fluid extract of krameria 5%. These solutions are best administered hot, a temperature of 110 degrees F. in the irrigator being most suitable. This treatment by irrigation is repeated at intervals of three or four days, depending on the severity of the case.

At the end of two or three hours these enemata will have been passed, when much aid to the reparative process can be had, by the instillation of four or five ounces of olive oil through a long colon tube. The oil serves as a protective dressing as it is slowly carried downwards by peristalsis.

When sigmoidoscopic examination reveals localized areas of acute hyperemia, erosions, superficial ulcers or inflammation about the mucous follicles, these lesions, though improved by the local treatment just described, are most quickly cured by direct applications of such stimulating agents as nitrate of silver 2 to 10%; ichthyol, 15%, in glycerine; and balsam of Peru, 15%, in castor oil. When using nitrate of silver the weaker solution, not stronger than 2%, should first be tried and, later, the strength may be gradually increased in accordance with the severity of the reaction it excites. These sigmoidoscopic applications are repeated not oftener than once in three or four days, preferably a few hours after the colon has been flushed.

The palliative treatment of chronic invagination of the sigmoid or upper rectum, at times associated with this form of catarrh, consists in replacement by air dilatation with the pneumatic sigmoidoscope, with the patient in the knee chest position, together with the topical applications already suggested. Persistence in this line of treatment will sometimes effect a cure; but, should this palliative measure prove ineffectual, the suturing of the sigmoid to the abdominal wall (sigmoidopexy) is the operation to be considered.

Polyps, multiple adenoma, villous or papillary growths, may often be removed, either with a ligature or with the galvano-cautery applied through the sigmoidoscope.

In certain cases irrigation, topical applications and dietetic measures do not improve the patient's condition. Then, even though these may seem indicated by the character of the lesions as viewed through the sigmoidoscope, they should be supplanted by other methods of treatment. The reason for their failure is that the mechanical causes before referred to are present, and must be corrected before much amelioration of the symptoms can be expected.

Treatment of Chronic Atrophic Recto-Sigmoido-Colitis. As in the other variety, the treatment is largely dietetic, in conjunction with local measures. As regards the *Diet* for atrophic catarrh it is similar in every respect, to that usually advocated for habitual constipation.

Local Treatment. The local treatment consists chiefly, in keeping the rectum clear of feces and in stimulating the mucous membrane, and whatever glands may not have been obliterated entirely during the process of atrophy. Since the disease is usually confined to the rectum and sigmoid, this is best effected by small enemas, not exceeding eight or ten ounces, taken immediately after the bowels have moved in the morning. This measure will cleanse the rectum and sigmoid of the dry accumulations of inspissated feces and tenacious mucus that invariably are left behind in these atrophic catarrhs, and which cause the feeling of incomplete relief after defecation. The agents we use for this purpose are normal saline and boric acid solutions. When the mucus is very tenacious, it can be more readily removed by an alkaline solution such as,

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Sodae bicarb.
Sodae biborat aa 1 drachm.
Aquae quart.

These and the mildly antiseptic solutions enumerated for the hypertrophic variety, may be interchanged as desired. This part of the treatment should be carried out daily for a considerable time.

I have noted in many cases that great benefit follows the nightly injection of as large an amount of olive oil as can be easily retained throughout the night. The amount varies considerably, but by beginning with an ounce, it can be gradually increased to five or six in some individuals. The oil is a soothing, pro-

tective dressing, which both allays the irritation caused by retained feces and is of much value in procuring a soft, easy motion the next day.

If after proctoscopy, excoriations, ulceration or granular patches are seen, they should be touched at intervals of four or five days with stimulating lotions of nitrate of silver 2 to 10%, protargol 25%, or insufflated directly with such powders as iodoform, calomel, or aristol. Before applying either solutions or powders, the diseased area should be cleansed by wiping away any secretions that may be adherent.

In case Houston's valves are rigid and over prominent, they should be massaged for five minutes, twice a week through the rectoscope. This procedure will very frequently change a stiffened and obstructing valve into one so pliant, that it cannot possibly be any hindrance to the fecal current. Should this method fail valvotomy should be performed.

SOME OF THE COMPLICATIONS OF PNEUMONIA.*

BY

GEO. S. BATES, M. D.,

Morrisville, Vt.

It is when complications arise, where the ordinary is departed from, that the principal agent, be he a doctor of medicine, or the general of an army, or the campaign manager, finds it absolutely necessary for him to discover a remedy or a procedure which will meet the demands of the circumstance and overcome it, if need be, by counter-strategy.

The severity and acuteness of the symptoms in pneumonia and the fatality of the disease cause not only the laity to shudder on its approach, but the profession as well share in the general feeling of fear and speculation. Then when after several weeks of worry with some of these most severe types of the disease, the worn out attendent finds that he is confronted by new and more difficult dangers, his patient's vitality practically exhausted, his own mind tumultuous with suggesting thoughts and contra-ideas, there is little wonder he totters on the edge of the slough of despond. But he who battles with the well nigh invincible foe, be it man, beast, or condition, and leaps up victorious, is indeed the greatest of champions. The complications of pneumonia as compared with some other diseases, as for instance, typhoid, are much less, but still quite numerous, and often extremely severe. I once had a case of pneumonia which developed in the convalescing stage of the disease a very severe inflammation of the throat. The vault of the pharynx, and both tonsils were extremely inflamed within a few hours. In 12 hours a membrane, in appearance much like that of diphtheritic membrane spread over the right tonsil and attached itself to the soft palate. It seemed typical of diphtheria to me; so much so, that I sent for the patient's father who is a physician in Boston, and also procured some antitoxin. There were no constitutional symptoms present which I could force myself to believe were due to diphtheritic infection. However, the father came, made a diagnosis of diphtheria, and antitoxin was used. Before the administration of antitoxin, there was no rise of temperature, no constitutional or systemic shock apparent, and neither was there after. The throat did not begin to clear up for about five days, and the antitoxin did not seem to affect the condition in any manner. It was no doubt a condition produced by a mixed infection, which was purely local. I speak of this, as it was a condition which seemed so typical of diphtheria, in its local appearance, and a condition which I have never before seen, nor have I ever heard it described by any other physician.

Of all the complications of pneumonia, pleurisy is no doubt the most frequent. No doubt, in each case of croupous pneumonia, there is more or less pleuritic inflammation. The condition may go on to effusion or not. There may be formed a fibrinous exulate, a sero-fibrinous condition, or it may by germ invasion become purulent. Nature of course assists in the non-purulent cases by her effort to absorb, and take care of the fluid, and this process, if the patient is not weak, and the circulatory powers too slow and feeble, is often quite rapid.

We have all had cases of what has been termed delayed resolution in pneumonia. We have all been annoyed after the temperature has left our patient, and other symptoms subsided, to discover the fact that the formerly consolidated area in the lung did not begin to resolute prop-

*President's address at meeting of Lamoille County Medical Society, Morrisville, Vt., July, 1908.

erly, and after watching closely day by day, the condition did not improve. Still there was impairment of resonance on the affected side. Naturally we arrive at the conclusion that nature's process has met with an obstacle and that further investigation becomes quite necessary. When therefore, we meet such conditions, unconsciously we ask the question, what causes can there be present to produce the difficulty? When such interferences arise, and the diseased area does not clear up, we may come to this conclusion—that there is probably present a pleuritic effusion of some nature. It may be in character a fibrinous exudate, a serous fluid, or pus. The last condition is not such a rare complication. Empyema may be due to a pneumococcic or streptococcic or mixed infection. Most authorities believe that an empyema due to pneumococcic infection is not so serious as one due to some other germ infections.

Now it is not always that a condition of this kind is easily diagnosed. The area of the effusion in the first stages is not large,—and really no symptoms are manifested by the patient, —he very probably being confined to bed,—which would ordinarily lead to an early and absolute diagnosis, but we have in our minds the ever present fact that here is a case of delayed resolution, that the condition is running an abnormal course, and that there is a positive cause for the delay of the anticipated stage. We therefore, may infer, when such conditions supervene, it is probably due to some variety of effusion, and the only means we have to clear up our doubt is the aspirating needle. Puncture the area, ascertain the character of the fluid. If you wish, and I think it is quite satisfactory, send a sample of the material to the bacteriological laboratory for their report as to the nature of the infection you are getting. This procedure clears the way for future treatment. But here our manner of treatment and the time of treatment may be greatly influenced by the condition of the patient. I am purposely leaving out of consideration the measures which have in the past been employed to some extent to hasten nature's efforts to produce absorption, as I intended only to bring out a few points in regard to the operative treatment. I recently had a case of croupous pneumonia, a child of eleven, which developed in the usual way, only the symptoms being possibly more acute. The lower lobe of the right lung first became involved and finally the whole lung structure on the right side became absolutely hardened. The temperature was high, running at one time to 105. The high temperature lasted only three days. During all the rest of the disease it remained low from 99½ to 101. The respiration running from 40 to 44 the first seven days. Pulse 120 to 128. There was pronounced abdominal tympanites.

Commencing with the end of the first week, and extending to the 14th day, the respiration became higher, reaching 56 at one time, for a short time only while the temperature remained low, and the quality of the pulse became very poor. Heart's action was irregular. Patient was continuously cyanosed. There was no change at this time apparent in the lung. Resolution did not take place. The patient's condition now was so extreme that I did not even dare to aspirate. Upon the 20th day, I aspirated and found pus, and subsequently operated, removing a portion of the 7th rib, and entirely resecting a portion 1¼ in. in length from the 8th. My incision lay between the 7th and 8th ribs, slightly posteriorly to the axillary line. This gave me plenty of room for drainage. Rubber tubes were used for drainage tubes, and after the 2nd day, they were daily changed. After the first week I commenced to use irrigations of sterile water, and after allowing this to drain out of the cavity, followed it by a 1 to 1000 alphozone solution. The recovery has been progressive and uneventful. In 10 days he was out of bed. Some of the thoughts which I wished to bring out in this paper are: First, that there are cases of empyema developing from pneumonia, which do not present any of the typical symptoms, as in the case described there were neither the chills, nor rise in temperature. The only symptom was the failure of the lung to clear. Second, I believe it is extremely important in operating on this class of patients to have plenty of room for drainage, so that the act of respiration, or the healing of the wound, will not interfere with the drainage tube, and third, my personal experience in two or three cases of empyema with alphozone, which to my mind has proven itself in a picked class of cases to be an agent of more than ordinary efficacy.

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

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EDITORIALS.

During the past few years there has been a marked increase in the amount of contract work which is being done by physicians, and to the positions of City Physician, Health Officer, Railroad Surgeon and Corporation Physician, there are now added the positions of physician to various clubs, societies and fraternal organizations. These physicians agree to care for the members of these organizations for a very small annual fee, say one dollar for each member, regardless of their financial condition. There is an increasing sentiment among the physicians of the state against such contract work at reduced prices.

There is much that may be said on both sides of the question. What can be the objection to a young physician accepting a position as City Physician even though the salary is less than the regular price for the work required? The experience must count for something in the way of remuneration and we cannot see any difference in principle between a young physician accepting a position as House Surgeon in a hospital and giving his time for the experience he gets and his board, or accepting a position as City Physician for the experience he gets and money enough to pay his board. In each case the primary object is experience, in one case he boards at the institution, in the other at a boarding house or at home; in one he receives his board from the endowment fund of a charity hospital, in the other from the charity fund of the city or town, and in each case is treating people who are unable to pay for this service. The custom which has been adopted by some towns of putting up the medical care of its poor at auction and awarding it to the lowest bidder, without regard to his qualification, is most pernicious and should not be tolerated. Cities should demand the services of reliable and competent young physicians to care for their poor. The position of Health Officer is too important to be influenced by conditions of commercialism. Cities and towns should have health officers of recognized ability and should pay a reasonable price for their services. The work of the Health Officer is not for the poor alone, it is a service in the interests of the general health of the people and there is no reason why a reasonable salary should not be paid for it. In all probability physicians who work for corporations receive a reasonable compensation for their services. Corporations usually demand the services of physicians of recognized ability and it is probable that their financial condition at the end of the year is fully as satisfactory as it would have been had they done the work at the regular prices and had had to pay the regular expenses.

The conditions which exist when a physician agrees to treat the members of a society for a ridiculously small sum per year are entirely different. It is not a work of charity for the poor or the seeking of an opportunity to get practical experience by a young physician, as is the case

with the City Physician, nor is it the receiving of a reasonable compensation for services rendered. It is simply the plan of an organization to get the services of some physician at a price which is so small that it is out of all proportion to the amount of work done. The members of these organizations as a class are not in need of charity and we see no occasion for physicians agreeing to do work for them at less than the regular price.

It is a well known fact that physicians as a class are very willing to give gratuitous services to the poor, perhaps more willing to do so than men of other professions, and it is equally true that physicians are imposed upon more than the men of any other profession by calls for gratuitous service from people who do not need charity. It is not to be wondered at that the spirit of commercialism is becoming more evident among physicians. In these times physicians must give some attention to their income. There is however a feeling of admiration for the family physician who is apparently unmindful of the commercial side of the practice of medicine and who doctors people simply because they are sick. Physicians are expected to pay their bills, however, the same as other people and gratuitous service will not pay rent or buy groceries. The physicians of today must have a wise mixture of charity with modern business principles in order to succeed.

The adoption of hard and fast rules in regard to prices that shall be paid for medical services savors too much of labor organizations and is too far removed from the principles which pertain with the generous, kind-hearted physician whose first thought is for the welfare of his patients. But as we have said, the physician must give some thought to his income and must protect himself from the efforts of the unscrupulous who do not need charity but who are always trying to secure medical services without paying for them. The action which was taken by the Vermont State Medical Society at its annual meeting in Rutland last October seems to have settled this question in a very satisfactory way for the physicians of this state.

The resolution which was passed is as follows:

"On and after the first day of January, 1909, no member of this society shall accept the position of club, society, lodge or fraternal organization physician, or agree, or continue to do any medical or surgical work for any club, society, lodge or fraternal organization at a less rate than the regular or customary charges for like services rendered by other physicians in the same locality for patients *not* members of such club, society, lodge or fraternal organization."

"Also, that in no case shall any physician agree to attend the families of the members of such club, society, lodge or fraternal organization at half price, or less price than the regular rate."

"Nothing in this section shall be construed as preventing any member from attending the worthy poor at a less rate, or to give free services to those too poor to pay anything."

"Any violation of this article shall be considered unprofessional conduct, and it shall be the duty of the House of Delegates to expel such members when proof of such conduct shall be presented to them."

The Bulletin of the American Medical Association for November calls attention to the importance of the duties of the county secretaries in an article entitled "Secretaries' Reports and Their Importance." This article points out that the membership of the Association is dependent upon that of the county societies. That it is manifestly impossible for the officers of the Association to inquire into the personal fitness, professional standing, ethical conduct, etc., of every

physician who applies for membership. It is likewise impossible for them to keep track of all its members as to their fitness for membership. For all this they must depend upon the county societies. It thus becomes absolutely essential that the county secretary report all changes of membership to the state secretary who in turn is required to report each month to the general secretary new members, deaths, resignations, suspensions, expulsions, removals, etc., from all the county societies of his state. The card index of the American Medical Association, consisting of nearly 70,000 cards, is made up from these reports. In the Directory, a new edition of which is soon to be issued, all members of state and county societies are entered in capitals thus making the book not only a general directory but a medical society blue book as well. As the card index is the guide in making the Directory it is important that no member's name should be omitted from the cards and that no non-members should be on them.

This relation of the county secretary to the association is well summarized at the end of the above mentioned article as follows:

"(1) A correct and complete list of members is an absolute necessity in any properly conducted organization.

(2) County societies have completely in their own hands the control of membership in the county so far as the county and state organizations and the American Medical Association are concerned.

(3) No physician can become a member of the American Medical Association, or, being a member, can remain as such, unless he is a member in good standing of his county society.

(4) The enforcement of this provision rests entirely with county secretaries who, by prompt and accurate reports, can keep complete control over membership matters in their county. This is of great value to the county society in stimulating and maintaining organization.

(5) The most important attribute of the efficient secretary is his ability to answer official letters promptly and clearly. The secretary who will not reply to letters received is not only of no value, but is actually detrimental to the organization, since he prevents progress by his inaction and causes unnecessary work and expense to all concerned.

(6) If each officer will do his share of the work and do it promptly, the amount required of each will be small and the efficiency of the organization will be vastly increased.

(7) In electing county secretaries these facts should be kept in mind. The efficient county secretary should invariably be retained and the inefficient one should be replaced by a member who will give the duties of the office proper attention. No member should accept such a position unless he is willing to do the work required. No secretary should be allowed to retain his position unless he does his work promptly, effectively and with a view to the best interests of his society."

It is to be sincerely hoped that the optometry bill, which was introduced into the present session of the legislature and which has been reported by the press as having passed that body, will be vetoed by the governor. If it is allowed to become a law it will be an unnecessary and pernicious piece of legislation. The object of the bill is to legalize the optician, who is to become an "optometrist," to conduct examinations of the eyes of persons suffering from ocular defects and to impress on the minds of the public that he is especially qualified for the work because he has been licensed by the state.

This bill defines the practice of optometry "to be the employment of any means, other than the

use of drugs, for the measurement of the powers of vision and the adaption of lenses for the aid thereof." This bill gives authority to opticians to do a work, and at the same time prohibits the employment of the means necessary to do it properly, for it is taught in the best medical schools, both in this country and abroad, that it is impossible to properly correct errors of refraction without the use of drugs, and it is the practice in our best hospitals, both special and general, to employ their use for this purpose. And when a person, complaining of diminution of vision, goes to the optometrist, feeling that he is going to the best qualified person because he has been legalized by the state to do such work, how is the optometrist going to be able to determine whether the diminution in vision is due to an optical error or to a beginning nephritis, arteriosclerosis, optic atrophy, glaucoma, retinal hemorrhage, choroiditis, neuritis, vitreous opacities, cataract, iritis, keratitis or any of the other diseases of the eye or any of the other general diseases which make themselves manifest in the eye and sometimes there first? Our present state laws very justly and wisely say that for a person to have any practical knowledge of these diseases he must first have studied medicine for at least four years, and it is hard to see how the optometrist is to acquire this knowledge from his previous training which, according to the bill, may be anything from a chore boy in a jewelry store to a course in a "school of optometry," which school may grant a certificate after a correspondence course or a course lasting anywhere from a week to ninety days. And, according to the original bill, the qualifications of the aspirant "optometrist" are to be passed on by a board who may not have had any more than this meagre training, for any jeweler or jeweler's clerk in a store which has had, for a certain length of time, a sign up "Eyes Examined Free" may be appointed a member of this board.

The early detection of the ocular symptoms of general disease and the early recognition of serious eye troubles and their prompt treatment mean a great deal to the patient; in the one instance it may be a question of life or death and in the other the loss of sight. For it is well known that if some of these conditions are taken in their incipiency a great deal can be done for them and in some instances cured, whereas if let go until later it is utterly impossible to do anything for them.

The movement is an effort on the part of those unqualified to do so to become legalized to practice one branch of medicine without the requisite qualifications which can be obtained only by studying medicine as a whole.

The fitting of glasses for the ordinary case of presbyopia or for a simple error of refraction has been carried on by the village jeweler for years past without any particular detriment to the public, for the public did not expect very much from them in the way of ocular knowledge, but when it comes to legalizing these same men or others not any better qualified into specialists and allowing them by means of a state certificate to foist themselves on the public as possessing superior ocular knowledge it is quite a different thing. Whereas it may be desirable to check in some way the operations of the great "professors" who now travel about the country advertising to make the blind see, legislation such as proposed by this bill would be making matters worse instead of better.

NEWS ITEMS.

Dr. M. E. Cotter has opened an office at Northfield, Vt.

Several cases of smallpox have broken out in the vicinity of Windsor, Vt.

Dr. Irving H. Farr has been appointed city physician of Holyoke, Mass.

Dr. F. C. Lagouri, formerly of Barre, Vt., has gone to Brooklyn, N. Y.

Dr. Foster H. Smith has been reappointed city physician of Lowell, Mass.

A son was born December 18th to Dr. and Mrs. E. G. Sprague of Barre, Vt.

Dr. George P. Hunt has been made a member of the Pittsfield, Mass., board of health.

Dr. R. R. Van Dyke of Malone, N. Y., has been appointed jail physician for the county of Franklin.

Dr. George W. Dow of Lawrence, Mass., has been reappointed medical examiner for the Fifth Essex District.

Dr. and Mrs. W. G. Church of Burlington, Vt., have gone to Pasadena, Cal., where they will spend the winter.

Dr. J. R. Hobbie has been appointed chairman of the North Adams, Mass., board of health and Dr. W. F. McGrath, city physician.

The Vermont State Board of Medical Registration met at Montpelier, January 12, 13 and 14 for the examination of candidates for a license to practice in Vermont.

Dr. Dean Richmond, who has been at Saranac Lake for treatment, has returned to his home at Windsor, Vt. His condition is such that he is at present confined to his bed.

Dr. E. H. Buttles of Brandon, Vt., has been appointed sanitary inspector by the Vermont State Board of Health. Dr. Buttles' office will be at the State Laboratory of Hygiene at Burlington.

The marriage of Dr. Henry L. Pache and Miss Frances Harris was solemnized December 26 at the residence of the Rt. Rev. A. C. A. Hall, Burlington, Vt. The couple will reside in Danville, Vt.

It is reported that a girl weighing twenty-seven pounds was born to Mr. and Mrs. John Herrick of Hardwick, Vt. The baby died as soon as born, but its body was viewed by nearly every resident of the town before the funeral.

Six members of the Webber hospital staff of Biddeford, Me., resigned January 1. The letter of resignation gave no reason for the action, but it is supposed that dissatisfaction is felt because of the appointment of certain physicians to the staff.

Dr. and Mrs. C. F. Morse, formerly of Montpelier, Vt., sailed January 5 from San Francisco for Honolulu with the 5th U. S. cavalry. Dr. Morse will be the senior medical officer of the medical corps at the U. S. Army post to be established on that island.

The trustees of the Heaton Hospital, Montpelier, Vt., have received a gift of $10,000 from E. W. Bailey of Chicago and L. D. Taft of Montpelier. This money will be used for the construction of a maternity ward and in making other needed improvements.

The smallpox epidemic of Brattleboro, Vt., is practically over. The quarantine was raised December 26 and the schools opened December 28 for such pupils as had certificates showing that they had been successfully vaccinated. In all about 150 cases developed.

The Nathan Smith Laboratory at Hanover was opened at the commencement of the first half year. Dr. Howard N. Kingsford, director, Dr. C. P. Graham, assistant. Besides doing the bacteriological, pathological and histology work, it is the State laboratory of hygiene.

The Burlington and Chittenden County Clinical Society held its meeting December 30 at the Medical College. Dr. J. B. Wheeler presented a paper on "A Visit to the Clinic of the Drs. Mayo, Rochester, Minn." Dr. S. E. Maynard also spoke of his visits to the clinic.

The Barre Hospital Association has been bequeathed $2,700 by Mrs. Angelina French. All bills the past year have been paid with the exception of one for $200 but accounts collectible will offset this. Dr. O. G. Stickney has been re-elected president of the association.

The wedding of Dr. Albert L. Bingham of Williston, Vt., and Miss Julia J. McLachlin, a graduate nurse of the Mary Fletcher Hospital, was solemnized at the home of the bride in Peacham, Vt., December 31. After a brief wedding trip the couple will reside at Williston, Vt.

The Penobscot (Me.) Medical Association held its 55th annual meeting on November 17, at Bangor and elected the following officers:

President, Dr. Harry Butler; first vice-president, Dr. J. E. Lethiecq; second vice-president, Dr. H. P. Clough; secretary, Dr. J. B. Thompson; treasurer, Dr. H. H. Crane.

The Vermont State Board of Health laboratory of hygiene has moved from the quarters at 196 Main St., which it has occupied the past ten years, into the building at 184 Church St., which was erected for a temporary post office. The laboratory will occupy the entire building, which is well ventilated, lighted, and adapted for laboratory uses.

On December 19, 1908, a verdict of $5,750 was secured against Dr. Ferdinand Stillings and Dr. Sibley G. Morrill of Concerd, N. H., by a man who sued for $15,000, claiming that his leg was two inches short after treatment for fractured thigh. He was treated at the hospital in Concord. The doctors claimed that the man's recovery was retarded by a constitutional disease and that the leg was normal when he left the hospital.

Dr. H. D. Holton, secretary of the State board of health, has made a statement giving statistics concerning communicable diseases in Vermont reported from December 1, 1907, to November 30, 1908. The total cases follow: Smallpox, 166; measles, 675; whooping cough, 1,496; scarlatina, 332; diphtheria, 470; typhoid fever, 343; meningitis, 13; erysipelas, 38; chickenpox, 734; mumps, 1,089; German measles, 160; pneumonia, 53; impetigo contagiosa, 5.

"Dr." H. M. Stiner, proprietor of a traveling medicine show, was arrested at Hubbardton, Vt., December 16, and was arraigned before Justice B. H. Stickney on the charge of practicing medicine without a State license. He pleaded not guilty and was bound over in the sum of $400 to the March grand jury. Stiner was arrested on complaint of W. Scott Nay of Underhill, secretary of the medical registration board. Stiner sold medicine on a "guarantee to cure" basis and State's Attorney Jones has receipts for $15 and $17.50 given by Stiner for medicine bought.

A committee of three physicians has been appointed from the Hillsboro County Medical Association to investigate the methods of the Nashua, N. H., board of health, regarding which many serious allegations have been made, both by physicians and laymen. During the past few months there have been many cases of contagious diseases, especially diphtheria, and it is alleged that the board of health has been lax in quarantining and fumigating them. Dr. J. A. Lagace, in his own defence, claims that the complaints from physicians against him are merely discrimination. He is not a member of the medical association, and alleges that it is on that account that the complaints are made against the board. He also claims that the salary and appropriation of the board are too small to carry on the work.

The fifth annual meeting of the Grafton County (N. H.) Medical Society was held at Woodsville Dec. 8. The meeting was called to order by the president, Dr. G. W. MacGregor of Littleton. Officers were elected as follows: Dr. G. W. Hazelton of Haverhill, president; Dr. W. S. Woodman of West Lebanon, vice-president; Dr. G. A. Weaver of Warren, secretary. Dr. W. D. Smith of Hanover was elected a delegate to the State Medical Society and Dr. A. B. Downing of Littleton alternate. Dr. Henry W. Stetson of Orford was elected a member of the society. Dr. E. H. Carleton of Hanover presented a paper on "Tonsilitis." M. D. Cobleigh, solicitor of Grafton county, presented one on the "Duties and Liabilities of Physicians." A paper on "Materia Medica and Therapeutics" was read by Dr. F. L. Gerald of Warren, and Dr. G. W. Hazelton of Haverhill presented a paper on "Clinical Cases."

UNIVERSITY OF VERMONT COLLEGE OF MEDICINE. SCHEDULE OF CLINICS, SESSION OF 1908-9.

Medicine:—Dr. Jenne Fridays, 10.30 to 12.30, to May 8; Dr. Beecher Mondays, 3.30 to 5.30, to May 8; Dr. Kelly Mondays and Fridays. 2.30 to 4.30, May 10 to June 19.

Surgery:—Dr. Wheeler Saturdays, 8.30 to 11.30; Dr. Tinkham Wednesdays, 8.30 to 10.30, to May 8.

Neurology:—Dr. Shirres Wednesdays (alternate), to May 8. January 6, 20, February 3, 17, March 3, 17, 31, April 14, 28.

Dermatology:—Dr. Peters Wednesdays (alternate) to May 8. January 13, 27, February 10, 24, March 10, 24, April 7, 21, May 5.

Eye, Ear, Nose and Throat:—Dr. Twitchell Tuesdays and Fridays, 2.30 to 4.30.

Gynæcology:—Dr. Maynard Thursdays, 8.30 to 10.30, to May 8.

Pediatrics:—Dr. Pisek. Daily, from April 26 to May 8.

Orthopedics:—Dr. Shands. Daily, from May 10 to May 22.

Mental Diseases:—Dr. Wasson Thursdays, 1.30 to 3.30, Feb. 11 to May 8.

Venereal Diseases:—Dr. Reynolds. Daily, from April 12 to 24.

OBITUARY.

Dr. Charles S. Haines died at his home, Redford, N. Y., November 24. Dr. Haines was a graduate of the University of Vermont Medical College, class of 1879.

Dr. Ralph Erwin was killed by falling down stairs at his home, Malone, N. Y., December 9. Dr. Erwin was 70 years of age and served as a surgeon in the army during the civil war. He graduated from the University of Vermont Medical College in 1861.

Dr. Edward M. Tucker died at his home, Derry, N. H., December 8, aged 68. Dr. Tucker practiced in Canaan, N. H., for 38 years. He was a hospital surgeon in the army until 1871.

Dr. Gillis Stark died at his home, Manchester, N. H., from cerebral hemorrhage, December 13, aged 43. Dr. Stark was a graduate of the Dartmouth Medical School in the class of 1889.

Dr. Austin S. Bronson died at his home, New Hampton, N. H., December 30, aged 65 years.

Mrs. John S. White, wife of John S. White, a well known traveling salesman for John Wyeth & Bro., died at Manchester, N. H., December 27, aged 38 years. Death was due to valvular disease of the heart from which she had suffered a long time. Mrs. White was born in Poughkeepsie, N. Y., and was a daughter of John Hannah, a retired carpenter and builder of that place. Her father and sisters now live there. Since her marriage to Mr. White she had traveled a great deal, often accompanying her husband on his business trips through New Hampshire and Vermont the past eleven years and she had many friends in the places they were accustomed to visit. The past six years, the couple have made their home in Manchester, their residence being at 151 Pearl street. Mrs. White was a woman of most estimable character and kind nature and the family have the deep sympathy of all in their loss.

BOOK REVIEWS.

We have just received the new illustrated catalog of the W. B. Saunders Co. It contains a description of their medical books with a specimen illustration from each. It is gotten up in their characteristic artistic manner and is worthy of a place in any physician's library. Sent free upon application to publishers.

A Text-Book of Diseases of Women.—By Chas. B. Penrose, M. D., Ph. D., formerly Professor of Gynecology in the University of Pennsylvania. Sixth Revised Edition. Octavo of 550 pages, with 225 original illustrations. Philadelphia and London: W. B. Saunders Company, 1908. Cloth $3.75 net, Half Morocco $5.25 net.

This text-book of Diseases of Women is too well and favorably known to need any comment. It has been through five editions, and this, the sixth, brings this valuable work up to date. This book is worthy of the recognition it has always had.

Surgery: Its Principles and Practice. In five volumes. By 66 eminent surgeons. Edited by W. W. Keen, M. D., LL.D., Hon. F. R. C. S., Eng. and Edin., Emeritus Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Volume IV. Octavo of 1194 pages, with 562 text-illustrations and 9 colored plates. Philadelphia and London: W. B. Saunders Company, 1908. Per volume: Cloth, $7.00 net, Half Morocco, $8.00 net.

The fourth volume of Keen's Surgery, which covers the subjects of the surgery of the intestines and herniae, the genito-urinary organs, the eye and ear, and military, naval and tropical surgery, is especially attractive. The volume is exceedingly well illustrated and the subject matter is complete and by men of unquestioned ability.

The high standard of excellency is maintained that has characterized the preceeding volumes.

The Physician's Visiting List (Lindsay and Blakiston's) for 1909. P. Blakiston's Son & Co., Philadelphia. Flexible leather. Price $1.00.

Besides being a visiting list this little book contains a table for the calculation of the period of utero-gestation; incompatibilities; immediate treatment of poisoning; tables for the conversion

of weights and measures; dose table: treatment of asphyxia and apnœa and comparison of thermometers. It is arranged in a convenient and useful way and will be found as helpful to the practitioner to-day as it has during the fifty-eight years which it has been published.

General Surgery: A presentation of the Scientific Principles Upon Which the Practice of Modern Surgery is Based.—By Ehrich Lexer, M. D., Prof. of Surgery, University of Konigsberg, American Edition edited by Arthur Dean Bevan, M. D., with 449 illustrations in the text, partly in color, and 2 colored plates. D. Appleton & Company, New York and London. 1908.

This one volume Surgery has been very carefully prepared and gives the most recent methods of diagnosis and surgical treatment. It is explicit, readable, finely illustrated and altogether a most desirable addition to a physician's library, and especially useful for medical students.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

The Differentiation of Common Types of Protracted Fever.—David Bovaird, Jr., M. D., (*American Journal of the Medical Sciences*, January, 1908) fully discusses this subject and gives XII case histories. He concludes as follows: Malarial fever is easily recognized by the presence of the characteristic microorganisms in the blood, and by its amenability to quinine. Fevers not conforming to these requirements are not malarial. Typhoid fever can be recognized or excluded with equal accuracy by the combination of clinical and laboratory evidence. Tuberculosis and sepsis of certain types present clinical pictures so closely similar that they often can only be differentiated by the ultimate outcome of the case, possibly at the autopsy. Influenza may give rise to protracted fever which can usually be easily recognized from the condition under which it occurs, sudden onset, characteristic symptoms, and course. Sepsis in other cases may be clearly indicated by very high leukocyte count, with high polyneuclear percentages, before any localization of the process can be made. Blood cultures are of very great value in the differentiation of fevers, especially in typhoid, and in such conditions as malignant endocarditis. There are cases of long protracted fever which cannot at present be satisfactorily classified.

The Medical Inspection of Schools from the Standpoint of the Medical Inspector.—John T. Sullivan, M. D., T. J. Murphy, M. D., and M. J. Cronin, M. D. (*Boston Medical and Surgical Journal*, December 17,) conclude their discussion of this subject as follows: That the whole system of medical inspection, including physicians and nurses, be placed under the control of the Board of Health. That a chief medical inspector be appointed, with deputies, if necessary, to have full authority over all, his function being to direct and control the work of the district inspectors and to see that each performs the duties required; also, through a supervising nurse, to direct the work of the nurses. That the medical inspector's powers be definitely determined and specifically set forth and that a proper compensation be given. That the nurses be subordinated to the district medical inspectors and work only under their direction. That a card system of records be devised, to be filled out by both physicians and nurses, one set to be kept at the schools and another set at the office of the chief medical inspector. That the Board of Health and the School Committee co-operate in bringing about such needed reforms.

The Method of Administering Antimeningitis Serum.—Charles H. Dunn, M. D., (*Boston Medical and Surgical Journal*, December 3, 1908) gives the following method of administering the serum: Perform lumbar puncture as soon as meningitis is suspected. If the fluid is cloudy, give the first full dose of serum at once, without waiting for the bacterial examination, although further doses are only to be given in case the diplococcus intracellularis is found in the cerebrospinal fluid. The serum is of no value in other forms of meningitis. At every dose give as much as possible. Always withdraw as much cerebrospinal fluid as possible. Give 30 ccm. in all cases in which the amount of fluid withdrawn is 30 ccm. or less, unless a distinctly abnormal sense of resistence is felt after as much has been injected as has been withdrawn. In all cases in which more than 30 ccm. have been withdrawn, give as much serum as has been withdrawn. In very severe cases, as soon as the patient begins to get worse, or at 12 hour intervals. In average cases, repeat daily, until four full doses have been given. If diplococci persist, continue the injections until they have disappeared. If subjective symptoms, any impairment of the mental condition or fever persist after diplococci have disappeared, or after four full doses have been given without progressive improvement, wait four days if the condition is stationary. At the end of four days, or at any time if the patient's condition is worse, repeat the treatment and continue as if this were the original attack. Treatment along these lines should be continued until the patient is symptom free, without diplococci in the fluid, or until the chronic stage is established. In the chronic stage, watch for the possible reappearance of the diplococci by doing occasional lumbar punctures. If they do reappear, resume treatment with the serum as outlined above. In chronic cases with excessive cerebrospinal fluid under marked pressure, try daily lumbar puncture without the injection of serum.

Induced Hyperemia as a Means of Treatment.—Sir William Bennett, K. C. V. D., (*British Medical Journal*, November 21, 1908) concludes as follows: In Bier's method we have a means of inducing hyperemia which is more scientific and generally more efficacious than any other plan. If the necessary care and discretion be exercised in its application, the method may be safely, and as a rule with advantage, employed in all cases in which a local engorgement or determination of blood is deemed advisable, provided always that the patient is not the subject of arterio-sclerosis or brittle blood vessels. Whilst there is no reasonable doubt that

the hyperemic treatment is beneficial in certain cases for which it is suitable, it should, in the present state of our knowledge of it, be regarded as an adjunct to, and not a substitute for, the treatment hitherto adopted in the class of cases for which it is used.

Gonorrhea and Marriage.—F. C. Valentine and T. M. Townsend, New York (*Journal A. M. A.*, December 5), describe their method of testing for latent gonorrhea in candidates for marriage. Assuming that the patient has had one attack of gonorrhea, he is instructed to bring about as much irritation as he can by eating freely of articles likely to disturb his digestion, drinking more champagne or beer than usual, but not to the extent of producing inebriety; if an abstainer he is advised to drink freely of carbonated beverages. These measures should be kept up for a week or ten days, to the extent that they can be endured. If any perceptible disturbance is perceived, such as a slight increase of urethral secretion or discomfort on urinating, he is ordered to present himself before voiding his first morning urine. The urethra is then stripped, and if this fails to bring any excess of urethral secretion to the meatus, the urethra can be curetted with a sterilized platinum loop and the results spread on a flamed cove-glass for future examination, slants of the Loeffler's serum being also inoculated and placed in the culture oven at once, and kept at a temperature of 99. The patient is then instructed to half fil a 12-inch ignition tube (180 c.c) with urine and to fill entirely as many more tubes as are needed nearly to empty the bladder; the remaining amount is passed into a final tube. Each tube is immediately stoppered with sterile cotton and marked with the patient's name and numbered. If the urines between the first and last tubes are perfectly clear and the first and last suffice for exhaustive microscopy, the intervening tubes may be discarded. The first and last, however clear, should be sedimented and the result prepared for microscopic examination. If the preliminary preparation has not caused any recrudescence, the prostate may be massaged and the seminal vesicles strippe l for specimens in addition to those taken from the urethra. If no secretion is immediately obtainable by massage, etc., the patient is instructed to walk about for a few moments; a slight oozing then usually appears. If this does not occur, the urine passed within five or ten minutes thereafter will be found in most cases to be loaded with the secretion that has not escaped. This will be available for microscopy. If within three days autoreinfection of the urethra has resulted, the discharge must be taken for examination. If no reinfection has occurred, exhaustive urethroscopy is demanded, an l even then, if no gonococci are found, their existence can not be entirely excluded and, for additional safety, all the procedures should be repeated two days after the urethroscopy. Both sets of examinations proving negative, further steps are indicated. An anterior irrigation with mercury bichlorid, 1 to 5,000, generally sets up rather a severe urethritis, easily controllable by a few irrigations when no gonococci are present. In case the urethra is tolerant of bichlorid of mercury, a 1 per cent. solution of silver nitrate, retained for five minutes will usually succeed. The microscropic detection of gonococci in the discharge, of course settles the question here considered. When examination of all genital secretions or hypersecretions fails, the examination of the urinary sediments may reveal the germs. The site where they are held residual must be determined by repetition of the researches described. All the tests proving negative the series should be repeated a month or two later, and then failing we can assume, in the present state of our knowledge, that it is safe for the patient to marry. These examinations should be urged on ex-gonorrheics contemplating marriage.

Gonococcus Vaccine.—N. E. Aronstam, Detroit, Mich. (*Journal A. M. A.*, October 24), finds that the gonococcus vaccine acts beneficially in acute cases of gonorrhea and the time required to cure the disease does not exceed four weeks. It is also useful and may be considered curative in some of the complications, such as epididymitis, Cowperitis, acute prostatitis, gonorrheal adenitis, enlargement of lymph channels on the dorsum penis, and in posthitis of the same origin. He has also used it lately with success in gonorrheal iritis. No other treatment, systemic or local, is necessary. In chronic cases it is inert and acts indifferently, owing to the mixed infection in these cases, and the conjoined use of other bacterins suggests itself. It is a valuable diagnostic agent, bringing to light latent or dormant conditions and showing whether a given case has actually been cured, and especially important point for sociologic reasons. In dormant gonococcic arthritis it will bring about a recrudescence of the disease. It materially shortens the duration of this complication and brings about a speedy cure. No exact rule can be given as regards dosage and intervals of administration; each case must be treated individually. Aronstam considers that the future possibilities of gonococcic vaccine and opsontherapy in general are unlimited. Its bearing on prophylaxis in this disease, which must be recognized as a systemic and not a local infection, must be considered.

Milk and Infections.—J. W. Trask, Washington, D. C., (*Journal A. M. A.*, October 31), reviews the recent literature of epidemics of typhoid, scarlet fever and diphtheria and the facts as regards the transmission of tuberculosis by milk. He remarks that when it is considered that available evidence seems to show that between 2 and 4 per cent. of typhoid convalescents become chronic bacilli carriers, the probability that some of them are employed at dairies in milking cows and handling milk is very great. The dangers of infected bottles in typhoid epidemics is also emphasized. Diphtheria outbreaks and their relation to milk distribution have been studied, and he points out the methods of observation by which outbreaks of these three diseases have been traced to special milk routes and stamped out before they had reached very formidable dimensions. The question of human tuberculosis from cattle is not altogether settled, but the facts seem to show that man is capable of infection with bovine bacilli and that a certain proportion of cases in the human species are of bovine origin. The prevalence of tuberculosis among cattle is estimated in many parts of the country as ranging from 15 to 40 per cent., and the possibility of milk iufection, even though the udder is not diseased, is always to be considered. We may expect to find tubercle bacilli iu market milk and milk products, and this has been frequently shown. Other diseases in the epidemiology of which milk plays an important part are dysentery, epidemic diarrhea, cholera and milk sickness, this last determined by the recent work of Jordan and Harris.

THE REPORT OF THE ANESTHESIA COMMISSION.—The first annual report of the anesthesia commission, Dr. J. G. Mumford, chairman, to the Section of Surgery and Anatomy of the American Medical Association, appears in *The Journal A. M. A.*, November 7. The purpose of the commission is to investigate yearly only one or two drugs. As a preliminary, however, the members have, during the past year, collected data regarding a number of anesthetics, their more popular methods of administration and the claims made by their advocates. These papers, tentative and lacking their unanimous endorsement, will be published in the printed report. As regards the chloroform and ether controversy, they find it still active, each drug having its earnest advocates. In their researches and recommendations the members of the commission will bear in mind the two phases of the problem; the use of these drugs by the expert and the inexpert. They say that spinal anesthesia is gaining constantly a wider and more favorable recognition. Its just claims are being acknowledged and its limitations are being appreciated. They quote the opinion of an experienced surgeon, who finds it safer and more satisfactory than any general anesthetic for a large class of cases, his preference being for stovain over cocain anesthesia. Nitrous oxid, the oldest of the general anesthetics, is coming into more general use for major operations. The field of local anesthesia is widening in the practice of many surgeons, and rectal anesthesia by ether, abandoned nearly twenty years ago, has been revived and used to advantage. It is an ideal form of anesthesia for all head and neck operations, but is valueless and dangerous in unskilled hands. The paper closes with the following three recommendations regarding general anesthetics: "I. That for the general practitioner, and for all anesthetists not specially skilled, ether must be the anesthetic of choice—ether administered by the open or drop method. 2. That the use of chloroform, particularly for the operations of minor surgery, be discouraged, unless it be given by an expert. 3. That the training of skilled anesthetists be encouraged, and that undergraduate students be more generally instructed in the use of anesthetics We believe that the further use of nitrous oxid, combined with air or oxygen, in major surgical operations, is promising."

THE MEDICAL DEFENSE MOVEMENT.—Now that the Medical Defense Branch of the Kentucky State Medical Association has been formally launched the question will be asked by every member of the association who takes any interest in its activities, (which we trust includes every member) what are the objects of the Medical Defense Branch, and what will it mean to me and to the medical profession? That question we will try to answer in such a way as to leave no member of the association in doubt as to the material advantages which he will obtain for himself by becoming a member of the Medical Defense Branch, or as to the benefits which he will confer upon his profession in the event he helps to that extent to make this new work of the association a success.

The first medical society in the United States to take up mutual defense was the Medical Society of the County of New York which in 1901 adopted a plan modeled somewhat after that of the Medical Defense League of Great Britain, which was founded in 1885. The States which have adopted and now have in operation a plan of medical defense are: New York, Pennsylvania, Illinois, Iowa, Nebraska, Massachusetts, Wisconsin, Maryland, Missouri and Kentucky. The following States have appointed committees on the subject, but as yet have taken no final action: Michigan, New Hampshire, New Jersey, Ohio, West Virginia, Georgia, and California.

The Medical Defense Branch of the New York society during the six years of its existence has defended 178 cases with only one adverse verdict, which has just been set aside by the New York Court of Appeals. This result has been brought about through the willingness of the best men of the profession to go to any part of the State and uphold a brother practitioner no matter at what personal sacrifice, and with the same *esprit de corps* we may hope for equally good results in Kentucky. The medical profession has long been an easy prey to blackmailing patients, and the only remedy is defense of unjust malpractice suits by a medical defense organization representing the best members of the profession, and having the services of lawyers who will make a special study of the law bearing on malpractice cases. Membership in the Medical Defense Branch of the Kentucky Association costs only $6.00 for the first year, and $1.00 for each year thereafter, and the payment of these small sums gives to the member paying them the benefit of the best legal talent in defending any unjust suit for malpractice against him without any other cost to him and also indemnifies him against the payment of all court costs. In addition to the services and advice of the General Counsel the member will be entitled to the services of the best local lawyer who can be had to defend his case, to whom the General Counsel will give the benefit of their knowledge derived from a special study of that branch of the law. The cases which are covered by the member's contract and which entitle him to defense are not only original suits for malpractice but all unjust claims for damages on account of alleged malpractice whether asserted by way of counter-claim in an action by the member to recover compensation for his services or in some other way.

Not only is the member entitled to have the Medical Defense Branch defend such suits and claims for him but he is entitled to the assistance of the Executive Committee and the General Counsel in preventing threatened unjust litigation, which is even more important. The knowledge that a doctor is a member of the Medical Defense Branch will give assurance that he will have the support of the best members of the profession in resisting any unjust suit for malpractice, thus tending to prevent the bringing of such suits. These, however, are purely selfish considerations, but there is a higher reason which should appeal to every doctor who desires to have the profession of his own State stand for all that is best in the medical world, and that is that an association tends to secure the whole medical profession against bad legal precedents in malpractice suits, which almost invariably result from the fact that the defendant has not had the services of a lawyer who has made a specialty of malpractice law.—*Kentucky Med. Journal.*

H. L. READY, *Montreal Medical Journal*, contributes an article on auto-toxemia of pregnancy. He states as the cause of this condition "placental indigestion," faulty interchange at the placenta, causing the retention of poisonous matter in the mother's blood. It may possibly be that an unhealthy uterine mucosa at the time of conception is the primary cause.

The clinical conditions resulting show the following types:

The Fulminant type as expressed by acute yellow atrophy of the liver may cause death in twenty-four hours and some of the sudden deaths in the gravid.

Acute Type usually described as of three stages. The first stage consists of prostration, headache and vomiting, which may pass unnoticed into the second stage, where the nerve centres are involved. This may pass into the third stage, apathy, coma, and death, and often without convulsions having been present. Here the liver is usually, if not always, seriously affected, according to Ewing, and the type is markedly fatal, if not always so.

The Subacute Type.—This is the type we meet with most often and here death is not inevitable, and indeed, if the necessary care has been taken, need, I think, rarely occur. The chief clinical conditions are eclampsia, hyperemesis, ante and postpartum phlegmasia, pulmonary embolism, and increased liability to sepsis. The liver is usually damaged more or less, and the pregnancy kidney is frequently found. Klein asserts that the pregnancy kidney is only found when the thyroid does not develop its usual hypertrophy. In this type, I believe, we can early detect the onset of this condition and by proper treatment carry the woman and her child to full term safely.

The Benign Type.—This includes the petty morbidity of pregnancy as evidences of slight toxæmia, pruritus, perverted tastes, etc., and the maternal organism is able to throw it off.

With regard to the proportion of women who suffer with toxemia he says:

Taking a healthy woman of 120 pounds, she should excrete say 472 grains of urea daily. The quantity of toxins excreted daily we have no method at present of calculating. We do not even know what they are, but clinically, we und that women excreting about 472 grains of urea daily, will excrete a normal amount of the toxins, and as the quantity of urea excreted is diminished, so is the quantity of toxins diminished, so that clinically all that is necessary to do is to examine the urea quantitively with the Doremus ureometer and the hypobromate of soda solution. The following table is taken from the last 200 cases in the Women's Hospital:—

Over	400 grains	35 cases	17.5 per cent.
Between	350-400 grains	26 cases	13 per cent.
Between	300-350 grains	37 cases	18.5 per cent.
Between	250-300 grains	29 cases	14.5 per cent.
Between	200-250 grains	36 cases	18 per cent.
Below	200 grains	20 cases	10 per cent.
Below	150 grains	13 cases	6.5 per cent.
Below	100 grains	4 cases	2 per cent.
		200	

This table shows that a much larger number of women suffer with toxæmia in varying degrees than one would suppose. In the 200 cases there were 17 per cent. of the cases with albumen varying from a trace which, on treatment, disappeared, and in other cases a grave quantity. We also find that in cases where there is considerable diminution of urea, say 100 to 150 grains for a prolonged period, the toxins seem to be stored up and suddenly may produce acute or subacute types, as eclampsia, and that without the kidney having shown any sign of being affected up to the time of the first convulsion. Therefore, the usual, and in most cases the only examination of the urine which is made, is for albumen, which is not only deceptive of the condition present, but relying on it, our patient may become gravely, if not fatally, ill before we are aware of it and if she should survive, she often does so with seriously damaged kidneys. If eclampsia occur eitner the doctor or the patient, and usually the latter, is to blame from either carelessness or ignorance of the necessity of ante-partum examination and treatment.

We may meet with toxaemia at least as early as the third month. In hyperemesis gravidarum, I believe that we have in most cases an auto-toxaemia grafted on to an existing emesis, causing a simple condition to become grave. The treatment advised is as follows:

In slight diminution of urea before severe signs arise, I stop meat, and give chiefly milk diet with salines, following small doses of calomel, and find very often the condition greatly improved or it passes off altogether. I know of no other successful treatment for severe cases of diminution of urea, except that for threatened eclampsia, hot packs, saline purgatives, skim milk diet, and iron and digitalis and often rest in bed is required. The effect of such treatment will be seen in the following cases in three days' time:

1	174 grains	After treatment 325 grains
2	153 grains	After treatment 209 grains
3	220 grains	After treatment 483 grains
4	186 grains	After treatment 316 grains
5	175 grains	After treatment 260 grains
6	185 grains	After treatment 342 grains
7	129 grains	After treatment 310 grains
8	139 grains	After treatment 352 grains
9	186 grains	After treatment 341 grains
10	139 grains	After treatment 349 grains

The hot packs were alternated with the saline purgatives and the urine tested every two or three days, until marked improvement occurred. Of course, clinically, we get in severe and advanced cases of deficiency of urea, the usual prodromata of convulsions in addition, severe headache, spots, sparks or flashes of light, sciatica, a most marked sign with many, and often a severe pain over the epigastrium. There may be general anasarca also present, or only the feet and ankles affected. If you ask a patient who has been under treatment for deficient urea, how she feels, say after one week's treatment, you will require no world-renowned authority to convince you of the correctness of your diagnosis or treatment, nor your patients of what you have done for her.

The British Columbia Tuberculosis Sanatorium. A contract has been awarded for the construction of a new building at the sanatorium, at Tranquille, to cost $65,000. The plumbing, heating and furnishings will increase this cost to $100,000. The provincial government has announced its intention of an additional donation of $20,000, providing a separate building is erected for the care of advanced cases of tuberculosis. In due time this addition will be constructed. The citizens of British Columbia certainly have far surpassed the people of our states of the Northwest in their provisions for the treatment of this class of patients.

Tuberculous Pleurisy is a vital subject, considering how frequently pleural lesions either precede or accompany pulmonary tuberculosis. Martin, in the London *Medical Lancet,* finds the course of primary tuberculous pleurisy to be very varied; an accurate prognosis in the acute stage of the disease is impossible. In diagnosis must be considered: The mode of onset. The course of the disease, including an examination of the pleural fluid obtained by puncture. The pyrexia in tuberculous cases is frequently much more prolonged, even in the absence of empyema; this symptom in the absence of suppuration or other complication is a strong evidence of tuberculosis. The pleural effusion tends to reaccumulate, requiring paracentesis several times for the patient's relief; it sometimes coagulates spontaneously, unless the disease has become chronic. The result of guinea pig inoculation is often positive. Occasionally the development of peritonitis evidences the tuberculous nature of the case. With regard to the after effects of the disease on the chest wall and lung, there is often such an association. In many cases there remain a greatly thickened pleura. The chief physical signs are well marked retraction of the sides, chiefly the base, and deficient expansion. After a time dilated bronchi may be manifested, even with every other evidence of physical well being. The main factor in treatment is to remove the fluid from the chest. Cases running a prolonged course are best treated by lying in the open air, properly wrapped up; there should be generous feeding. By these means a perhaps fatal tuberculosis may be avoided.—*Charlotte Med. Journal.*

It is a blessing that there are always men among us, who have enough love for carcinomatous patients as well as for science, to inaugurate new therapeutic methods. No doubt, the Roentgen method as well as its combination with preliminary operative measures, so far has given the best results. The records of the Post-Graduate Hospital show a number of cures in some desperate cases. Fulguration, the new method of Dr. Keating-Hart, which is done after the principle of the high frequency current, is reported to be still more successful. Surely, the powerful sparks destroy the carcinoma-cells, but they also demolish the normal interstitial tissue. Still, Czerny has applied the fulguration treatment 120 times on 59 patients so far, and his results are admirable. It is to be expected that the delicate technic as well as the complicated armamentarium is still more perfected under the hands of the untiring Heidelberg master.—*The Post Graduate.*

The Opsonic Content of the Blood of Infants.—Amberg (*Journal of American Medical Association,* January 26, 1907) has tested the opsonic content of the blood in infants, breast-fed and otherwise, and in different conditions of health and nutrition. His results do not altogether support Moro's finding that the blood of breast-fed infants always exceeds in bactericidal power that of other infants; while the kind of food may exert an influence other factors must enter into consideration. One of these appears to be the state of nutrition, but there are indications that there are still other factors that come into play in certain cases. While he admits the insufficiency of the data, he offers tentatively the following conclusions: (1) The opsonic content of the infant's blood does not seem to follow the rules laid down by Moro for the bactericidal power of the blood. (2) The average values for the opsonic content of infant's blood exceed those laid down by Simon for normal adults. (3) A distinct advantage seems to exist in favor of the breast-fed infant. This advantage does not seem to be dependent so much on the breast-feeding as such, as to some extent on the state of the nutrition of the infant and perhaps, on the constitution.—*Boston Medical and Surgical Journal.*

Vibration. According to Sir William Crooks sound begins to the human ear at 32 vibrations to the sound of time. At 32,768 sound ends to the human ear and electrical waves begin at 34,359,738,368. Electrical waves end at 35,184,372,088,832. Light waves begin for the human eye at 1,125,899,906,842,-624 and light waves end for the human eye at 288,220,376,151,711,744.

The medical profession should be a learned profession. Cornell University will hereafter receive no students at its Medical College that do not possess the A. B. degree. That rule already hold in Johns Hopkins and Harvard Universities. Medicine, law and theology should be treated as post-graduate studies that require the basis of wide education and trained minds.—(*The Independent.*)



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THERAPEUTIC NOTES.

LA GRIPPE—ACUTE CORYZA.

BY

W. T. Marrs, M. D., Jewett, Ill.

What is the best method of aborting grippe or acute nasal catarrh? Several years ago a number of the leading medical men of the country were asked this question. The consensus of opinion was that the only appreciable way to shorten the duration is for the patient to go to bed and stay there until well. My observation prompts me to believe that sedation is more effective than stimulation. I can see no value in quinine. A vascular sedative, e. g., digitalis, aconite, does good. Calomel followed by a saline is very efficient at the beginning, Glycothymoline in a 25 to 50 percent solution with water used with the K. & O. Nasal Douche allays the congested mucous membrane of the nose and throat. It is alkaline, antiseptic and sedative and always makes the patient feel more comfortable. When a more sedative action is desired I often put a little menthol with the solution. The patient should be instructed to keep the naso-pharyngeal mucous membrane in a clean aseptic condition as it is doubtless during colds that many cases of tubercular infection occur.

Helpful Hints for the Busy Doctor is the appropriate title of a booklet issued by the Abbott Alkaloidal Company. The gist of the book is well given by Dr. Abbott in "A Final Word" as follows:

A Final Word. Although the pages of this little book really contain everything that I can say in this "final word," yet I do not feel that I can let it go to mail without again urging upon you its importance; its very seriousness as affecting yourself and the profession in general; its real worth in all its essentials, as well as its details; and the opportunities it presents, if made available in business—likewise to add laurels to your crown professionally as well as "put money in your purse."

Every suggestion made herein is directly in the line of professional and financial uplift for the doctor—personal and professional protection. Deciding to interest yourself, as many thousands are already doing, in the principles it expounds and the drug-quality it presents, I earnestly urge that you avail yourself of the economic possibilities therein outlined, not only as to the acceptance of special cash-with-order offers in connection with the introductory-proposition coupons presented (just following page 32) but of those provided in our "Discounts" paragraph, page 12 (discounts for quantity) and our liberal discounts for cash in advance on deposit, page 13, all of which provide for the additional benefit of free delivery, the gist of the matter being that on any amount of cash sent in advance in the amounts stated under "Discounts" paragraph you receive credit for the $5.00, $10.00, $30.00, or whatnot sent, plus the discount recited for that amount against which sum-total you may draw at any time you please, delivery prepaid.

I urge upon you the preservation of this pamphlet, its careful perusal and the protection of yourself by availing yourself of the opportunities it presents—this and nothing more.

Yours for the profession,

W. C. ABBOTT.

POST-GRIPPAL COMPLICATIONS.

If there is one particular feature which characterizes the genuine influenzal attack, it is the decided and sometimes intense prostration that remains after the subsidence of the acute symptoms of the disease. This general vital "set back" is oftentimes entirely out of proportion to the severity of the original grippal attack, and the most robust patients are sometimes the most severely prostrated. In addition to the general devitalization, La Grippe is extremely likely to be accompanied with or followed by such troublesome complications as otitis, neuritis, sinus inflammation, gastro-intestinal derangements, resistant and obstinate bronchial catarrhs and, more dangerous than all, a peculiar, more or less characteristic, asthenic, form of lobular pneumonia. The skill of the physician and the vital resistance of the patient are often taxed to the utmost in a combined effort to induce final recovery. Anemia, to some degree, is almost always brought about by the combined devitalizing power of the disease and its complications, and convalescence is likely to be tardy and tedious. An easily borne, readily assimilable hematinic does much to hasten recovery and Pepto-Mangan (Gude) is an especially eligible method of introducing the much needed ferric and manganic elements, without producing or increasing digestive difficulty. In no condition does this well tried hematic remedy evidence its undoubted reconstructive power more certainly than in the treatment of post-grippal convalescence.

PHARMACOLOGICAL INSURANCE.

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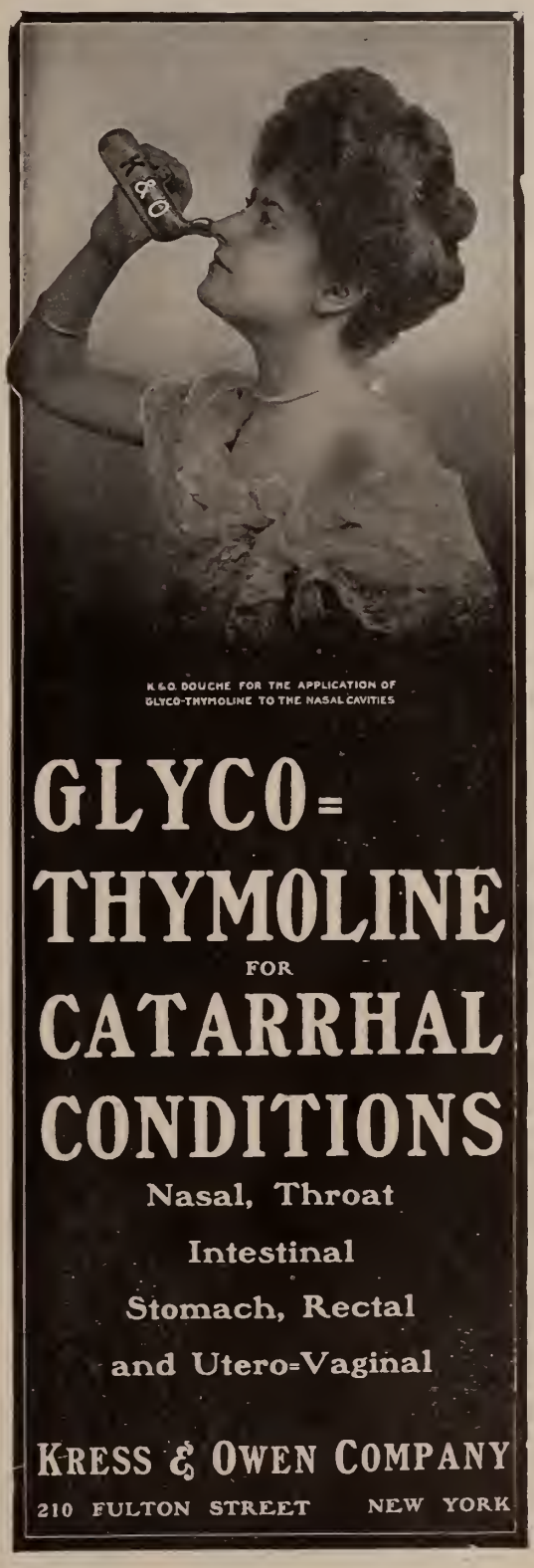
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EXTERMINATE THE FLY.—According to the Water Pollution Committee of the New York Merchants' Association, 7,650 deaths from typhoid and other intestinal diseases can be traced each year to the flies of New York City. In Chicago, also, experiments have been made. In a district where typhoid fever was prevalent 18 flies were caught, and the typhoid germ was isolated from five of the eighteen.

DEATH FROM ANTITOXIN. The recent death, in Eugene, Ore., of a young man, immediately following an injection of diphtheria antitoxin for asthma, again emphasises that this universal remedy is not without danger. The coroner's jury gave a verdict of criminal carelessness against the physician which at once brought out letters and statements from many physicians that he had followed a well established therapeutic procedure and, so far as he was concerned, was guiltless of blame.

Dr. Wiley, the pure food expert, about whom so much has been said lately, finds danger not only in the food we eat but oftentimes in the dishes from which we eat it. Recently he has extended the investigations of the Bureau of Chemistry of the Department of Agriculture to include the examination of cracked dishes taken from some of the "quick lunch" rooms of Washington. Lurking in the seams and cracks twenty-five different species of organisms were discovered by the bacteriologist of the department, a large number of them belonging to the colon group. In spite of the spotless appearance of the kitchens of some of these places, Dr. Wiley holds there is danger from them, since it is impossible to clean cracked dishes properly. The conditions found in Washington could doubtless be duplicated in any large city, and



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are probably of little importance in the dissemination of disease.

One of the yellowest of the yellow New York Sunday editions but a few weeks ago devoted one whole page to a startling discussion of these investigations by Dr. Wiley. Doubtless we will soon be refusing to eat from dishes which do not show a perfectly unblemished surface.—*Charlotte Med. Journal.*

Treatment of Coryza.—In the experience of F. P. Atkinson, in the *British Medical Journal,* the quickest relief in case of a common cold is obtained by giving 30 minims of sweet spirits of niter and the same quantity of aromatic spirits of ammonia in 1 ounce of water, repeating the dose in two and then every four hours. Three or four doses are generally sufficient to put a stop to the discharge. Should the discharge happen to be thick when first seen, then a snuff composed of 1 gr. cocaine, 2 gr. of menthol and 100 gr. of boric acid quickly effects a rapid cure. When the cold has run down into the trachea, as shown by a tickling of the throat whenever a long breath is taken, then a mixture of liquid ammon. acet., dr. 2 sp. ether, nit. min. 10 in 1 oz. of water, every four hours, rapidly gives the required relief.—*Charlotte Med. Journal.*

The Robert Koch Institute, which is soon to be opened in Berlin, more than any similar institution, will be apt to furnish rules for the proper administration and dissemination of the various tuberculin preparations. Americans may justly feel proud that the larger part of the contribution to the fund came from this side of the ocean, Carnegie, the Steel King, alone subscribing half the amount needed. Next to him came the German Emperor. It is a source of great enjoyment for anyone, who has a warm and cosmopolitan interest in scientific progress, to see two ingenious monarchs, of such different nature, coöperate in so harmonious a manner when a common enemy is to be attacked. What the most refined diplomacy is often unable to achieve, true philanthropy associated with common sense is sure to accomplish. This is a better and nobler act than the creation of an international peace-areopagus.—*Post Graduate.*

Cow's Milk Containing Iron.—The cows are fed with a prepared fodder, which insures that the milk contains a certain proportion of iron. Schnütgen (*Berlin. Klin. Woch.,* Vol. XLIV., No. 47) reports from Senator's clinic 9 cases of debility in adults in which great benefit was apparently derived from ingestion of a quart of this milk daily.—*Journal of the American Medical Association.*

White Plague and Japanese.—Honolulu, T. H., September 26.—Consumption among the Japanese laborers is increasing to such a degree that the figures are becoming a source of anxiety to Japanese merchants and officials. Quite a large percentage of the Japanese who are sent back to Japan by the Japanese charity associations are consumptives. Reports filed at the Japanese consulate show that many deaths are caused by tubercular diseases.

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It is claimed by the Japanese newspapers, commenting on this matter, that through the lack of private accommodations in the Japanese camps, tuberculosis is likely to increase at an alarming rate, and the attention of the planters is called to this necessity by the Japanese newspapers. They suggest that a new system be employed in dealing with the Japanese sick at the camps, as the Japanese are quite ignorant of even the most simple health safeguards.

Influence of Salt on Dropsy in Children.—Grüner (*Jahrb. f. Kinderh.*, Vol. XLVII.) tabulates the daily findings in 8 cases of dropsy in children, with the amount of salt and of fluids ingested and eliminated, the specific gravity of the urine and other details of the metabolism. They show the remarkable parallelism between retention of salt and formation of edema, and the prompt subsidence of the latter under the influence of partial or complete deprivation of salt. The fact of the retention of salt and its consequences has been fully established, he states, but it is difficult to explain its mechanism. Grüner accepts the whole process as a spontaneous means of reg-

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ulating the osmotic balance. Both experience and theory, he declares, sustain the advantages of restricting the intake of salt in all cases of edema of cardiac or renal origin or tendency thereto. Restriction of the intake of salt is not always effectual in every case of existing retention of salt. Possibly the retained salt in these cases is combined with the albuminoids and tissue fluids in some way and is no longer in the form of a simple solution, and thus its elimination through the kidneys is prevented.—*Journal of American Medical Association.*

The Use of Tuberculin in Infancy.—F. Ganghofner (*Jahrb. für Kinderhk.*, Bd. 63. Heft 5). The experiments with tuberculin were made on 12 tuberculous children. The author began with injections of 1-100 to 5-100 mg. and increased the dosage slowly. The real treatment began with 0.1 mg., which he increased slowly to 0.12 to 0.15 to 0.18 mg., depending on the intensity of the reaction which was generally mild, the temperature rising only slowly. The injections were made into the back once or twice a week. In general, the tuberculin cure was well borne, and had no injurious consequences. Two cases showed favorable results. He recommends further trials with tuberculin, and says he is still undecided as to its curative effects.—*Der Kinderarzt*, November, 1907.

The Doctor and the Deadbeat.—The average physician is notoriously a victim of the chronic deadbeat. Men who will without hesitation fritter away money on needless luxuries evince a stubborn indisposition to pay the bills of the physician who may have saved their own lives or those of the members of their family.

It is against this class of petty grafters that the physicians intend to protect themselves. Where a man, fully able but unwilling to discharge his obligations to his doctor, makes application for treatment, he will be politely required to settle up before the amount to his credit is lengthened by another dollar.

Such action only puts physicians on a plane with business men generally, who have these long years taken steps to protect themselves against the particular variety of well-to-do impostors now sought to be eliminated.

As for charity work pure and simple, the average physician could make disclosures that would open the eyes of the men and women who plume themselves upon achievements in this direction.—*Atlanta Constitution.*

The *Industrial Review*, a semi-monthly publication devoted to insurance, has devised a scheme for compiling a list of cheap insurance examiners. Physicians are invited to send a $2.00 subscription to the *Review* and to sign a contract which agrees, among other things, that for the subscription to the journal and the subscriber's name inserted in a list of insurance examiners, each doctor shall agree to accept $2.00 for single insurance examination, $3.00 for the adjustment of a claim, and $1.00 for each additional examination of the same individual, with 25 cents a mile additional if required to go beyond the city limits, or more than three miles from his office. The *Industrial Review* proposes to put this list of cheap insurance examiners in the hands of various insurance companies, and believes that this "Bureau of Physicians will fill a long-felt want with the insurance companies, and will undoubtedly bring a large volume of business to the physician who is fortunate enough to secure appointment."

Chloral, morphia and the poppy must look to their laurels as aids to "nature's sweet restorer," for a recent invention promises to banish insomnia. This invention is a musical bed. The sleepless and tired man goes to bed, and with his foot releases a spring which sets a musical box in motion. The apparatus begins to grind out lullabies and melodies, and in a short time the patient is snoring peacefully.—*Kansas City Journal.*

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ORIGINAL ARTICLES.

THE SURGICAL ASPECT OF INFLAMMATION OF THE BILIARY TRACT WHETHER ACCOMPANIED OR NOT BY GALL STONE.*

BY

H. C. TINKHAM, M. D.

Burlington, Vt.

It is only within a comparatively few years that the importance of surgical intervention in inflammatory diseases of the biliary tract has been recognized. These conditions were considered as entirely within the domain of internal medicine, excepting in cases where the existence of biliary calculus was reasonably certain, and even then operation would be deferred in many cases until all efforts to relieve the condition by medical means had failed.

I think this feeling exists to quite a large extent among general practitioners at the present time. It is not at all strange that this idea in regard to the treatment of these conditions should persist; it was the treatment recommended by the best men of that time and investigations which have given us more knowledge of these conditions are of comparatively recent date, and while there have been numerous articles published it is improbable that they have come to the attention of the large majority of busy physicians, or if these articles have been read many have failed to appreciate their importance.

The same reluctance was shown in accepting the idea that appendicitis was a surgical condition and that the greatest safety to the patient was in early diagnosis and early operation. Experience has shown conclusively, however, the truth of this teaching and it has become universally accepted by physicians.

It is within the memory of many of us when a diagnosis of appendicitis was not made until the appearance of a tumor. With the present knowledge of this disease it is the exception to have a case go on to abscess. Of the 102 cases of appendicitis which were admitted to the Mary Fletcher Hospital this year during my term of service (three months) only ten had abscess.

*Read before the Vermont State Medical Society, Rutland, Vt., Oct. 22-23, 1908.

I am inclined to believe that physicians at large regard inflammatory conditions of the gall bladder today in very much the same way that inflammatory conditions of the appendix were looked upon, and I present this paper with the hope that I may be of some service, not only to physicians by calling attention again to the importance of these recent investigations in regard to treatment of inflammatory conditions of the biliary tract, but also of benefit to patients who are suffering with gall bladder disease. I make no claim of originality of ideas in this paper, I have simply tried to incorporate the ideas of recent investigators as to the cause of these conditions with the results which have been obtained by surgical treatment. It is impossible to have a clear idea of the conditions existing in inflammatory disease of the biliary tract, or to intelligibly interpret the symptoms, or to appreciate the importance of sequelae without a knowledge of the anatomy of the upper zone of the abdomen on the right side.

At the risk of describing to you what you are already familiar with, I will go over hastily the anatomy of this region. The ducts of the liver begin as capillaries in the substance of the liver between the hepatic cells. I wish, also, to emphasize the fact that the capillaries which result from the multiple division of the portal vein are situated in these spaces between the hepatic cells and consequently must be in close relation to the biliary capillaries. These biliary capillaries converge and unite as they approach the surface and finally appear at the portal fissure on the under surface of the liver as two ducts—the right and left hepatic duct—these unite very soon to form the common hepatic duct, this duct unites with the cystic duct from the gall bladder to form the common bile duct which is about three inches long and passes down in close company with the portal vein and hepatic artery behind the duodenum, usually at the junction of the first and second portions, to empty into the left side of the second portion of the duodenum, either in close proximity to or in conjunction with the pancreatic duct.

The gall bladder is a pear shaped sack attached to the under surface of the liver and connected with the biliary ducts by the cystic duct. The structure of the walls of the gall bladder, as well as of the bile ducts, consists of an outer fibrous layer in which there is a small amount of unstriated muscular fiber and an inner layer of mucous membrane which is continuous through-

out the ducts and gall bladder, and is also continuous below with the mucous membrane of the duodenum. The gall bladder is covered with peritoneum except where it is attached to the liver. The mucous membrane of the biliary tract is very similar in structure to the mucous membrane of the intestine. It has a free surface of columnar epithelium and has numerous mucous glands which open on the surface of the membrane. I would like to emphasize the fact of the similarity of structure of the mucous membrane of the biliary tract and intestinal canal including the appendix, and consequently the possibility of a common infection.

The relation of the gall bladder and biliary ducts to other viscera is most important. The gall bladder lies on the anterior surface of the duodenum and only a short distance from the pyloric end of the stomach. The transverse colon passes just below the fundus of the gall bladder. The biliary ducts beginning above the duodenum pass behind it and then along the inner side of the second portion in close proximity to it, and also in close relation to the head of the pancreas. It is obvious, then, that if an infection should penetrate the walls of either the gall bladder or bile ducts from the inside, peritoneal adhesions which would involve the gall bladder, pyloric end of the stomach duodenum and under surface of the liver would result.

The secretion of the liver, like the secretion of the kidneys, is an excrementitious product, but the bile unlike the urine is made use of in connection with digestion and absorption. Its production is practically continuous. It is discharged into the intestine during the period of digestion, in the interval it passes through the cystic duct to the gall bladder to be stored up for the next period of digestion so that normally the gall bladder is being filled and emptied about three times each twenty-four hours. It is not probable that a change in composition of bile has much if anything to do with producing inflammation of the biliary tract or the formation of gall stones. When it becomes infected, however, as it might in the bile capillaries of the liver from the blood of the portal vein, it would then become the carrier of infection to all parts of the biliary tract and become a potent factor in producing these conditions.

There does not seem to be any question among the more recent observers that the cause of inflammatory disease of the biliary tract is an infection, and that the infection in a very large percentage of cases comes from the intestinal tract. In seventy cases in which the bacteriological findings were reported by Dr. A. O. J. Kelly of Philadelphia, 42.8% were infected with either bacillus coli communis or the bacillus typhosus.

There are several ways by which infection may reach the biliary tract from the intestinal canal: first, by direct extension from the mucous membrane of the intestine to the mucous membrane of the common bile duct with which it is continuous; second, through the blood of the portal system coming as it does directly from the wall of the intestine and emptying into the capillaries of the liver; third, by systematic circulation through the hepatic artery; fourth, through the lymphatics.

There seems to be some difference of opinion in regard to which method of infection is more probable. It is, however, entirely outside the intent of this paper to discuss this part of the subject. It is enough for us to know that all observers practically agree that infection of some kind is the primary cause of inflammatory diseases of the biliary tract.

Many forms of micro-organisms have been found in the bile ducts and gall bladder, those more commonly found are bacillus coli communis and bacillus typhosus, among the other bacteria which are occasionally found are streptococcus, staphylococcus, and pneumococcus. The infection may be of the widest range of virulence from the most acute which produces ulceration or gangrene of the gall bladder or bile ducts, (suppurative cholecystitis or suppurative cholangitis) to the most simple type of catarrhal inflammation which produces little if any evidence of local trouble. It is also an interesting fact that in quite a large percentage of cases of gall bladder disease of long standing, the micro-organisms having started the trouble seem to be destroyed in some way and there are no bacteria found in the gall bladder or bile ducts although much damage has been done. In the seventy cases which were examined and reported by Dr. Kelly there were no bacteria found in 48.6%.

The important consideration in connection with infection of the biliary tract, not only as regards the danger to the health of the patient but also in determining when surgical intervention may be advised, is first the great danger of the formation of gall stones, and second the danger of serious sequelae—adhesions, perforations, malignant disease, impaired digestion, etc., etc.

Inflammation of the biliary tract is rarely if ever confined to any one part but usually involves all the ducts as well as the gall bladder and while occasionally the process is rapid and we have a suppurating cholecystitis or cholangitis which require immediate surgical intervention the great majority of these inflammatory condi-

tions are the result of either a low grade catarrhal inflammation which has never been acute or a chronic condition which has followed one or more acute attacks. A very large proportion of the cases of acute cholecystitis do not completely recover, a chronic catarrhal inflammation persisting which sooner or later becomes evident from serious conditions which are a direct result of this type of inflammation. A chronic or low-grade catarrhal inflammation of the biliary tract causes a thickening of the mucous membrane with resulting diminution of the lumen of the ducts and more or less stagnation of the bile. The changes in the epithelial cells as a result of this type of inflammation cause a desquamation of the lining epithelium, an albuminous exudate, and an increased formation of mucus and of cholesterin. The increase of cholesterin, then, is not derived from the bile as was formally supposed but is formed by the mucous cells lining the gall bladder as a result of catarrhal disintegration. The albuminous exudate acting on the bile causes a precipitation of bilirubin-calcium, a normal constituent of the bile which is in solution in normal conditions. We have, then, as the result of this catarrhal inflammation of the mucous membrane of the gall bladder, all the conditions favoring the formation of gall stones—stagnation of the bile, desquamation of epithelium, increased production of mucus and of cholesterin, and the precipitation of bilirubin-calcium.

While with the present knowledge of this subject it cannot be positively stated that gall stones cannot be formed except as the result of inflammatory changes in the mucous membrane of the gall bladder, it can be positively stated that a large majority of cases of gall stones do result from this cause.

When gall stones have formed in the gall bladder they are a serious menace to the health of the individual. I am inclined to believe, however, that there is a general feeling that aside from the possibility of hepatic colic the presence of gall stones in the gall bladder is comparatively unimportant. There is some reason for this feeling, for it is a well known fact that gall stones exist for years without giving any serious trouble and at times without their presence being suspected. Notwithstanding the fact that gall stones may be present in the gall bladder for a long time without causing trouble, they are nevertheless, a serious menace to health. For example, the pressure may produce ulceration and perforation of the gall bladder, which may be the first symptom of importance. Again, a stone may become impacted in the common bile duct, which is a serious condition, or adhesions may form as a result of the extension of infection to the peritoneum, or malignant disease develop in the site of ulceration of the mucous membrane from gall stone pressure.

I wish to call your attention to the importance of these conditions which are the direct result of infection of the biliary tract either with or without the formation of gall stones, although there can be no question but that the presence of gall stones is a very important factor in producing these sequelae.

One of the most common as well as the most serious of these sequelae is the formation of adhesions between some part of the biliary tract and the neighboring viscera—liver, stomach, duodenum and colon. These result from a circumscribed peritonitis due to infection which has passed through the walls of the biliary tract.

The passage of infection through the walls of the gall bladder or bile ducts is materially aided by anything which destroys the vitality of the lining mucous membrane, this may result either from inflammatory changes or from pressure of gall stones.

These attacks of peritonitis may be well marked but in many cases only produce an ill defined pain in the epigastrium with more or less disturbance of the stomach. The serious effects of these adhesions which result from repeated or continuous infection of the peritoneum will be apparent, however, sooner or later. These adhesions are not unlike those about the appendix which result from chronic appendicitis.

The close proximity of the stomach and duodenum to the gall bladder and consequently the certainty of their being involved makes adhesions which result from an infected gall bladder a much more serious condition, not only from the reflex disturbance but also from the direct action in crippling the functions of the stomach.

Perforations of the gall bladder the result of necrosis due to pressure of gall stones on an infected gall bladder wall are not uncommon. Three such cases came under my observation during twelve months. One case refused operation and some months later an abscess made its way through the anterior abdominal wall which discharged a large quantity of pus and between thirty and forty gall stones. The patient recovered. The second case died of intestinal obstruction due to a gall stone which had ulcerated through the fundus of the gall bladder into the duodenum and lodged in the small intestine. Operation was not advised on account of the serious condition of the patient from organic disease of the heart. The third case had intestinal obstruction but at the end of twenty-four hours passed a stone, by the rectum, the size of an English walnut, with complete relief of the symptoms of obstruction.

A gall stone which becomes lodged in the common bile duct is a serious condition and is not an uncommon result where there are stones in the gall bladder.

Malignant disease also develops in quite a percentage of the cases of chronic gall bladder disease. It must be remembered that malignant disease is not a primary condition but develops in the damaged tissues of the gall bladder or the adhesions around it.

Attention has been called by recent observers to the relation of inflammation of the biliary tract to inflammation of the pancreas, and it is now believed that the former is an important factor in causing pancreatitis.

As these sequelae are all serious conditions, some of them being hopeless and a cure in any without accompanying disability being practically impossible, it is most important that an early diagnosis be made and such treatment given as will minimize the danger to the patient, not only the immediate danger but also the greater danger of serious sequelae.

In studying the symptomatology it must be borne in mind that there are a large percentage of cases which do not present the characteristic symptoms ascribed to disease of the biliary tract, and again that the so-called characteristic symptoms of gall stones may be present when no stones exist either in the gall bladder or bile ducts. These symptoms, then, are the symptoms of inflammation which may or may not have resulted in the formation of gall stones.

In the series of 216 cases reported by Dr. Kelly of Philadelphia, 182 had gall stones and 34 had no gall stones.

The symptoms most commonly ascribed to cholecystitis or cholelithiasis are pain, jaundice, fever, and with these we might discuss the size of the gall bladder. An analysis of these symptoms may help us in determining their relative importance in making a diagnosis.

Pain in a large majority of cases is a most important symptom, not only is the location and character of the direct pain significant, but that of referred pain as well. A large majority of cases have the so-called colicky pain, but there is a large percentage of cases that do not have colicky pain and a small percentage who do not have pain at all.

Dr. Kelly found this symptom in his series of 216 cases as follows: 74.5% had colicky pains, 20.8% had non-colicky pains, and 4.7% either had no pain or no well defined pain. Of those who had colicky pain 85% had gall stones and 15% had no gall stones. Of those who had non-colicky pains 77% had gall stones and 23% had no gall stones, and of the three patients who had no pain whatever two had gall stones. It is seen, then, that colicky pain is not necessarily a symptom of gall stones and that gall stones were present in a majority of cases that had non-colicky pain or no pain at all.

Jaundice may be the result of two conditions; first, mechanical obstruction of the bile ducts, and second to some disturbance in the bile secreting function of the liver, cases due to the latter cause, however, are a very small minority. A very large majority of all cases of jaundice are due to mechanical obstruction which must be of the common hepatic duct or the common bile duct, obstruction of the cystic duct does not produce jaundice as it does not prevent the free flow of bile from the liver to the intestine except when a stone in the lower end of the cystic duct closes the comon hepatic duct by pressure against its wall. Mechanical obstruction of the common duct may be caused by gall stones or by swelling of the mucous membrane closing the lumen of the duct. Jaundice, then, in the great majority of cases is simply a symptom of obstruction of the bile ducts which may or may not be caused by gall stones. In one case it is a symptom of inflammation of the biliary tract, in the other of the result of such inflammation—gall stones.

Of the 216 cases already referred to, 63.9% had jaundice at some time or another; 34.2% never had jaundice; 53.7% had jaundice and gall stones; 10% had jaundice but no gall stones; and 27.7% had gall stones but no jaundice. It is readily seen, then, that jaundice when present is a positive symptom of disease of the biliary tract but its absence does not preclude the existence of serious disease in the gall bladder or bile ducts; more than one-fourth of this series of cases having gall stones without ever having had jaundice.

Fever may be present or absent in these cases, but is probably present in a majority. In the cases studied by Dr. Kelly, 66.2% had fever at some time during the course of the disease and 30% had no fever. The fever does not seem to have any relation to the presence or absence of gall stones or to the presence or absence of jaundice. It is simply a manifestation of infection, and it should be interpreted the same with infection of the biliary tract as with infection of other parts of the body.

The size of the gall bladder is not especially characteristic of a definite condition, although there are some general deductions which may aid in making a diagnosis. Courvoisier's law is that in cases of chronic jaundice a contracted gall bladder is suggestive of gall stones and that dilatation of the gall bladder is suggestive of biliary obstruction caused by factors other than gall stones. Dr. Kelly calls attention to the fact that 40.5% of the cases that had gall stones and

jaundice, had enlarged gall bladders, but he also stated that the "shrinkage is due to inflammatory thickening and cicatrization the consequence of repeated infection. This process requires time—whence the condition of the gall bladder varies early and late in the disease."

In addition to these symptoms which are more or less characteristic of disease of the gall bladder there are other symptoms, less well defined, which have not commonly been associated with disease of the biliary tract which are important. These are usually referred to the stomach and are often designated as stomach-ache, gastralgia, gastritis, indigestion and biliousness. Many of the cases of nausea, persistent vomiting and constipation which are attributed to "stomach trouble" are the result of organic disease as gastric or duodenal ulcer, appendicitis, cholecystitis, chronic pancreatitis, etc.

It is most important then that ill defined symptoms referable to the stomach or epigastrium should be thoroughly analyzed and the condition which is causing them be discovered.

A vital question in regard to the relief of these cases is to what extent can they be relieved by medical treatment? Can medical treatment be so directed that it will render an infected biliary tract sterile and remove the organic results of a chronic inflammation?

These conditions of the biliary tract are very analogous to those of appendicitis, and about the same results may be expected from medical treatment. It is well known that a large percentage of the cases of catarrhal appendicitis will apparently recover with medical treatment. It is also a fact that nearly all of these cases have a return of the symptoms sooner or later. The inflammatory condition having persisted without having caused marked symptoms, at least not in the location of the appendix, the apparent cure was not a cure at all, simply a cessation of the symptoms.

This has been found to be the result of medical treatment of inflammatory conditions of the biliary tract and that while the more acute symptoms subside a chronic catarrhal inflammation remains. This produces a direct influence upon the health of the patient which is more or less marked according to the degree of the inflammation and its influence on nutrition. If this was the only disability and the patient could be assured that nothing more serious than a varying degree of invalidism would result, surgical intervention would probably be indicated in only a small percentage of cases. This, however, is not the fact. It has been clearly demonstrated that a chronic catarrhal inflammation of the gall bladder produces all the conditions which favor the formation of gall stones and the possibility of serious sequelae.

The logical treatment, then, would be to relieve the inflammation before the formation of gall stones. This treatment should consist in draining the infected gall bladder for exactly the same reasons that any other part of the body which has become infected should be drained. Early drainage of an infected gall bladder will often prevent a life-time of invalidism or avert death.

Is it any more logical to allow a case of infected gall bladder to go on until it has seriously impaired the health of the patient, or produced serious complications which cannot be cured, than it would be to allow a case of appendicitis to go on until it had produced serious conditions? It might be argued that cases of inflammation of the biliary tract do not all go on to develop serious conditions, or produce serious disability. This is the same argument that was used against operating for appendicitis. The trouble is it is impossible to tell which cases will develop serious complications.

When cholelithiasis exists there can be no question about the advisability of surgical interference. It is true that gall stones may be present in the gall bladder for years without causing any especial inconvenience, these cases, however, form a very small percentage of the total number of gall stone cases, and even though they do not cause symptoms for years, it is a well known fact that malignant disease or adhesions that ultimately destroy the health of the patient result from this class of cases as well as from those cases which have pronounced symptoms.

The large majority of the cases of cholelithiasis have well marked local symptoms—pain and tenderness—as well as more or less profound systemic disturbance from malnutrition and disturbances of the nervous system.

The medical treatment of gall stones has thus far been disappointing and we cannot rely in the least upon any of the lines of treatment which have been suggested for the relief of this condition.

There can be no possible advantage, then, in deferring an operation where gall stones exist and if it is deferred, structural changes may take place which will preclude the possibility of a good result from the operation.

I am inclined to believe, too, that physicians generally consider operations upon the gall bladder more serious and consequently attended with higher mortality than are operations on the appendix. Operations on the appendix are not attended with as high a mortality as formerly, and

while improved technique may have some influence in bringing about this reduction in mortality, the most important factor is an earlier diagnosis and an earlier operation, before complications have developed.

Operations on the gall bladder, if done early before serious damage has been done or complications develop, are not attended by any higher mortality than are early operations for appendicitis.

Dr. William J. Mayo reports 1,500 cases operated on by himself and his brother in five years, in which the mortality was 4.42%. This included acute perforations with septic peritonitis and malignant disease; it also included death from accidental causes—as pulmonary embolus, myocarditis and chronic nephritis One case died ten weeks after operation. Of the total number of deaths in this series, Dr. Mayo states that ten or fifteen were accidental, which would make the percentage of death as ordinarily computed 3.73%. A study of his report shows that many of these operations were done on cases having serious complications in which the mortality was high. Eliminating these cases we find that in early operations the mortality was 1.47%. Dr. Mayo says, "The three most important considerations in the surgical treatment of any disease are, first the mortality; second, the permanence of the cure; and third, the disability arising from the operation itself." The analysis of Dr. Mayo's 1,500 cases shows a low mortality in uncomplicated cases, and a not high mortality including all cases. In cases where the operation was done early the cure was permanent. The hospital disability will range from two to four weeks, and disability due to the operation that persists for any length of time after the operation is so uncommon that this danger is practically nil.

From the foregoing we may draw the following conclusions:

First, that the diseases of the biliary tract are the result of an infection which in a very large majority of cases comes from the intestinal canal.

Second, that all medical treatment directed either to the relief of the inflammatory condition or to the removal of organic results of inflammation has been most disappointing and that we must look to surgical treatment for the relief of this condition.

Third, that early surgical intervention is indicated. The mortality of early operations is very much less, the permanence of the cure is greater, and the danger of serious sequelae is minimized.

Fourth, that the danger to the patient is greater in delaying operation in cholecystitis or cholelithiasis than the danger of an early operation.

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THE VALUE OF A URINARY ANALYSIS OF THE MIXED URINE IN DISEASES OF THE URINARY TRACT.*

BY

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Rutland, Vt.

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The value of an analysis of the mixed urine as compared to one made from the divided urine is, I believe, for the purpose of diagnosis in disease of the genito-urinary tract a most important subject, and the one which it will be my pleasure to discuss with you this evening.

The routine practice of examining the urine of all patients applying to you for treatment is one which should be made invariable. How many times have you been surprised at your chemical and microscopical findings? Findings which bore no relationship to the physical or subjective symptoms presented by your patients.

There are many conditions of the lower urinary tract in the male and female where an analysis of the mixed urine is of decided diagnostic value. As in cases of urethritis, cystitis and prostatitis, with or without vesicular involvment. Especially is this so when combined with lavage of the urethral canal and bladder, and subsequent massage of the prostate and vesicles, after which the one, two and three glass test of Thompson, or Young's seven glass modification of it may be used, and very definite information

*Read before the Burlington and Chittenden County Clinical Society, Nov., 1908.

regarding the location of pathological lesions can be obtained.

It is in the lesions of the upper zone of the urinary tract, the ureters and kidneys where an analysis of the mixed urine is of questionable diagnostic value.

An analysis of a specimen of the mixed urine showing decided morphological constituents at once suggests the question in our minds which kidney, kidney pelvis or ureter is diseased.

While the subjective symptom of *PAIN* referable to the kidney and ureteral region is of great confirmative assistance, I hardly think one is justified in doing a nephrotomy simply on the strength of the microscopical finding of morphological elements in the mixed urine, and pain.

This fact has been well impressed upon me in the three cases whose histories I will incorporate in this paper so as to emphasize the points I wish to bring out; showing them as they occurred in practice rather than in theory.

The first case was that of a male adult, forty-two years of age whom I saw in consultation with Dr. Pond of Rutland. The patient had been under treatment for "high blood pressure" for two years by an eminent internist of Washington, D. C. He came to Rutland on his vacation and after several days of long and tiring motoring trips complained to his medical attendant of a dull ache in the lumbar region. The pain was equally distributed over the right and the left side; but more acute pain could be elicited by deep palpation over the left side. An analysis of the mixed urine showed pus, some blood, a trace of albumen,—undoubtedly due to the blood, as the only casts found were those of a hyaline nature. He was running an evening temperature, and the morning rise was around a hundred. Naturally calculus and tuberculosis suggested itself to Dr. Pond, and he asked me to see him with a view of catheterizing the ureters, and thus obtaining the divided urine. I did so, and found that the urine from the right kidney analyzed as follows: Cloudy 9.9 gr. urea per oz. sp. gravity 1018, blood, pus and hyaline casts and that from the left cloudy 5.8 gr. urea per oz. sp. gr. 1028, pus, blood and no casts. As the divided urine showed practically the same chemical and microscopical findings and calculus was eliminated by negative skiograph, a tentative diagnosis of bilateral pyelitis was made, and internal medication, with kidney pelvic lavage with a one to one thousand solution of nitrate of silver was advised.

The patient continued the evening and morning rise of temperature until it was apparent that the condition was becoming more aggravated rather than bettered by the course we were pursuing; so one evening when his temperature climbed to 104 and the mixed urine showed a decided increase in pus and pus, blood and granular casts; and as uraemic and septis were approaching operative interference was manifestly indicated to save his life. The question naturally arose, "which one, or should both sides be drained?" As our previous ureteral catheterization had shown us that both kidneys were involved another cystoscopy and ureteral catheterization was resorted to with a view of draining the kidney showing the most disease, as a double nephrotomy the patient could never have stood. Examination of the divided urine this time gave us more definite information, as the urine from the left kidney (what little there was) was loaded with morphological elements showing marked necrotic change in the kidney substance. The urine from the right kidney showed the presence of an acute nephritis thought to be of a toxic nature. This supposition proved to be correct as a subsequent examination of the urine proved. A nephrectomy was done, and the kidney was found to be an infarcted one. The patient made an uneventful recovery.

The pain in this case was indefinite rather than definite. And while it was more intense in the left kidney region, when deep palpation was made, I feel sure that no operator would have felt justified in cutting down on the kidney in this case without more accurate evidence of disease than was made out by the physical and subjective symptoms.

Very little pain is occasioned by a diseased kidney, per se, a peri-nephritis must exist to occasion much pain.

Another case, referred by Dr. Hammond of Rutland, was that of a male thirty-two years of age, who had his initial lesion of syphilis three years previously. He had received inadequate specific treatment and when seen by Dr. Hammond for the first time was suffering from the gastric crises of early tabes. Seven days before being referred to me he had severe pain in the right lumbar region, and noticed that his urine was "off color" and consulted Dr. Hammond at once.

Dr. Hammond discovered a large percentage of blood in the urine at this time; the pain in the lumbar region subsided under appropriate treatment, but the hematuria persisted and an attack of acute retention of urine demanded catheterization. At this time Dr. Hammond brought him to me for cystoscopic examination. Completely occupying the trigonal space was a large mass which at first was taken to be a papilloma, but by probing it with a ureteral catheter it proved to be a large blood clot. The right ureteral orifice was normal, and a normal swirl of urine came from it. The left ureteral orifice was normal but a swirl of bloody urine came from it. Catheterization of the ureters and a subsequent examination of the specimens showed the right kidney to be secreting normal urine, and the urine from the left to be loaded with blood. As no other pathological elements were found a diagnosis of "essential hematuria" was made. (An "essential hematuria" meaning nothing, all cases so-called have a pathological identity.) This case was undoubtedly one of angio neurosis of the kidney, and of syphilitic origin as under active hypodermatic syphilitic treatment, the hematuria ceased within a week. He went away to his home in another part of the state and passed out of Dr. Hammond's hands. His present attendant I saw at the state medical meeting and he advised me that the patient had had no return of hematuria.

The acute retention in this case was of interest as it was due to mechanical obstruction; the clot plugging the vesical urethral orifice; with the ureteral catheters I broke up the clot as best I could, and irrigated out the fragments; but as the hemorrhage was so active it recurred. Being a movable clot the possibility of changed posture during urination suggested itself, with the result that the patient was able to empty his bladder when in the knee chest position; allowing the clot to gravitate to the fundus, thereby freeing the urethral orifice of obstruction.

This case with the right sided pain and blood in the mixed urine would most certainly have lead one to an erroneous conclusion had not the divided urine been obtained. The pain in the right side was undoubtedly due to the syphilitic cord lesion, or may have been one of those cases of reflected pain seen occasionally in renal cases.

The last case was one showing pyuria of the mixed urine, and again emphasizes the value of analyzing the divided urine. A male adult, twenty-nine years of age was seen by me through the courtesy of Dr. Crain of Rutland. The man had been suffering from pain in the right hypochondriac region; was constipated and showed a moderate jaundice. He was entered in the Rutland Hospital with a diagnosis of chronic cholangitis with probable cholelithiasis. The mixed urine showed pus, but as he had given a history of gonorrhoea some short time previously it was thought that the pus originated in the posterior urethra and bladder, and had no association with the pain referred to. In view of the pus being found Dr. Crain felt that the patient should be given the benefit of a cystoscopy, and ureteral catheterization before operating for gall bladder drainage. The doctor requested me to cystoscope him. I found the bladder and ureteral openings normal; the ureteral openings were picked up without difficulty, the urine drawn from the right kidney, being as it was loaded with pus; and that from the left normal it was quite evident where the pus in the mixed urine originated. Operation on the gall bladder was deferred until the pyelitis might be treated medicinally and locally by lavage. After three weeks of such treatment during which time the patient was comfortable, and his urine was clearing up it was thought best by the physician sending the case in, and other members of the staff, to do an operation on the gall bladder. It was done; and while I was not present at the operation, Dr. Crain assured me that the gall bladder and ducts were in normal condition, and that by palpation of the right kidney it was found to be markedly enlarged.

This case is similar to a number reported by Sir Harry Fenwick of London. Under a continuance of the treatment for pyelitis, the patient made an uninterrupted recovery, and is attending his duties about the farm at the present time.

In a suspected case of nephritis an analysis of the mixed urine will show confirmatory evidence of the existence of the disease. However, if we are to believe the teachings of no less an authority than Israel, claiming as he does, the occurrence of a unilateral nephritis, the question again arises, which kidney? The opportunity is afforded us of ureteral catheterization, and thus determining the kidney diseased, but there *is* still a doubt regarding the existence of a unilateral lesion alone. Casper claims such a condition to be extremely rare if ever it occurs. More care-

ful work with the aid of the ureteral catheter is needed to settle the controversy existing between these celebrated urologists, and others working in the same field.

I do not wish to be misunderstood, or to go on record as advocating the routine practice of ureteral catheterization of all patients coming to us whose urine shows the presence of casts, pus, or albumen, simply for the purpose of gratifying our curiosity, as ureteral catheterization, like any surgical procedure, however simple it may be, is not without its dangers. For it matters not which kidney, or if both are diseased, so long as medical treatment is to be instituted. But when this treatment fails, and the question of surgical intervention arises, and a determination of a disease of the upper urinary tract is to be made with a view of opening up and taking from the body a kidney or ureter; I contend it is unsafe to rely upon the findings in an analysis of the mixed urine, and the subjective and objective symptoms alone, when it is possible by urinary segregation or ureteral catheterization to obtain specific information as to the condition of each kidney, or ureter.

THE DIFFERENTIAL DIAGNOSIS OF CEREBRAL HAEMORRHAGE AND CEREBRAL EMBOLISM.*

BY

GEO. S. BIDWELL, M. D.,

Waterbury, Vt.

These conditions require to be differentiated from each other and also, at times, from the following: opium and alcohol poisoning, diabetes, Bright's disease, traumatism, epilepsy, hysteria, cerebral abscess, cerebral tumor, meningitis, syncope, thrombosis, insolation, asphyxia, catalepsy and so-called reflex coma occurring in children.

In *haemorrhage* the onset is more gradual than in embolism and the coma longer. There are often numerous seizures from cerebral embolism followed by rapid and more or less complete recovery. Valvular heart disease can nearly always be detected in embolism. Age is an important factor. Embolism may occur at any age. Haemorrhage more commonly occurs at 45 to 60 years. Paralysis following haemorrhage is much more lasting. Respiration in haemorrhage is stertorous, pulse slow and full. The history—when it can be elicited—concerning previous attacks which may have occurred is always different in the two conditions.

Thrombosis ought not to be confounded. The age, endarteritis, long period of failing health, the arcus senilis and other evidences of senility ought to leave no room for doubt. It is supposed that complete and profound loss of consciousness speaks for haemorrhage in doubtful cases. Gerhardt considers a well marked aphasia to be in favor of embolism in doubtful cases.

In *opium poisoning* the conjugate, pin point pupils ought to make the diagnosis plain, unless the haemorrhage is into the deep structures of the pons. In such a haemorrhage the pupils are identical with those of opium poisoning, a positive diagnosis, in the absence of history, is an impossibility and the condition is rapidly fatal.

In *alcoholic coma* there is bound to be the odor to the breath, pupils dilated and respond to light, temperature subnormal, both feet will be drawn back when their soles are tickled with a pin. Careful examination will fail to elicit any evidence of paralysis.

Diabetic coma may be puzzling if we cannot obtain any history. In such a case examination of the urine would be conclusive. In cases of doubt this ought always to be done, for by this procedure we may be able to exclude both diabetic and uremic coma. In diabetic coma there is the peculiar, fruity odor to the breath which, when once detected, should always incite us to examine the urine which will clear up the question of diagnosis.

In *uremia* the onset is gradual and becomes worse as time progresses. There is the peculiar cachectic look spoken of as the waxy face. Pupils dilated, urinous odor about patient—especially of breath. Oedema of face and limbs. Finally examination of urine, which scarcely anyone would fail to make, will remove all doubt in diagnosis.

Traumatism—in the absence of any history—may be very puzzling and render a speedy diagnosis impossible. Of course this means either cerebral concussion or cerebral compression and this at once lands us within the do-

*Read at Barre, Washington County Medical Society, December, 1907.

main of cerebral haemorrhage. If, in our trauma, there is a solution in continuity of any of the visible structures, it gives us valuable information. But this is not always apparent. Then, in the total absence of history, it would be impossible for us to say that our cerebral haemorrhage was due to trauma and not apoplexy.

Epilepsy. In the coma following a typical epileptic seizure we may get the history of the "epileptic cry" or scream, marks on the face and scalp from injuries caused by falls in previous attacks, scars on tongue, lips and cheeks, and a history of previous attacks. Blood stained, frothy saliva may be noted exuding from mouth. There are tonic and clonic spasms. The convulsions are of short duration. Face is livid. A deep sleep follows and reflex sensibility is present.

Hysteria is most common in females. There is the hysterical tremor of the eye-lids. Large amount of pale urine in the bladder which is passed after the attack. History of globus hystericus. In cases of hysterical hemiplegia of long standing, unless there are other symptoms plainly pointing to hysteria, a diagnosis between it and cerebral hemiplegia is not possible. Charcot speaks of a "glasolobial hemispasm" which is said never to exist in organic lesions of the pyramidal tract and is therefore pathognomonic of hysteria. This consists of a paroxysmal spasm of the muscles of the cheek of one side, associated with an excessive deviation of the tongue to the same side.

Cerebral abscess. Increased temperature, convulsions or paralysis or both. The paralysis sometimes comes without any convulsions having preceded. History of malaise and terrific headache. Inequality of pupils. Generally history of injury.

Cerebral tumor. In this condition no possible doubt could arise if any history is obtainable. It is more apt to be mistaken for abscess, as increased temperature is often noted. The slow development is very suggestive.

Meningitis. If history be obtainable this need not be confounded. But, in the complete absence of history, a hemiplegia of meningitic origin could not be differentiated from one caused by cerebral hemorrhage, unless there be present the rigidity of the muscles of the neck and the scaphoid abdomen.

Syncope. Facial pallor, pulse feeble, respiration quiet, duration very short.

Insolation. Breathing stertorous, temperature elevated (perhaps very high) pulse rapid and feeble, skin hot, pupils contracted, vomiting and relaxed bowels may be present.

Asphyxia. Face livid, lips blue, extremities blue and cold, respiration distressed. History or the surroundings of patient will often afford valuable clues.

Catalepsy. The peculiar condition of the muscular system in Katatonia ought to keep us from mistakes. Still I have seen a well marked case of epilepsy diagnosticated as catalepsy.

The so-called "reflex coma" of childhood is probably akin to hysteria and is often dependent upon gastro-intestinal disturbances. I know nothing about it from personal experience and speak of it as I find it mentioned in this connection.

In summing up—Heit considers that a positive diagnosis in cerebral embolism and cerebral hemorrhage is possible in only about 50 per cent. of cases.

AN ACT TO AMEND PUBLIC STATUTES RELATING TO THE PRACTICE OF MEDICINE AND SURGERY.

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. Section 5364 of the Public Statutes is hereby amended so as to read as follows:

SEC. 5364. A person twenty-one years of age and of good moral character, who is a graduate of a legally chartered medical college or university, having power to confer degrees in medicine and surgery, and such medical college or university being recognized as determined by the board, shall, upon payment of a fee of twenty dollars, be entitled to examination, and, if found qualified, shall be licensed to practice medicine and surgery in this State and receive a license signed by the president and secretary of the board. Provided, however, that students who have completed the studies of anatomy, physiology, chemistry and histology, may be examined after presenting a certificate from the secretary of the college in which they are pursuing their studies, that they have completed the work of the second year. The fee which shall accom-

pany such certificate shall be one-half of that for the final examination and shall be credited to the student as a part of the whole fee. Practitioners graduated prior to the year nineteen hundred and one, under a lower standard, who have been five or more years in active reputable practice, may be examined by the board, if of satisfactory moral character, and if recommended as worthy by physicians in good standing. A person refused a license may be reexamined at a regular meeting of the board within one year of the time of such refusal, without an additional fee.

SEC. 2. Section 5365 of the Public Statutes is hereby amended so as to read as follows:

SEC. 5365. The examination shall be wholly or in part in writing, in the English language, and shall be of a practical character, sufficiently strict to test the qualifications of the applicant. It shall embrace the general subjects of anatomy, physiology, chemistry, pathology, bacteriology, hygiene, practice of medicine, surgery, obstetrics, gynecology, materia medica, therapeutics and legal medicine. Each applicant shall pass a general average of seventy-five per cent. to entitle him to a license, provided, however, that reputable practitioners may be allowed one per cent. for each year of practice, but such allowance shall not exceed ten per cent. Examination in materia medica shall be conducted by the members of the board representing the same school as the applicant.

SEC. 3. Section 5367 of the Public Statutes is hereby amended so as to read as follows:

SEC. 5367. Said board shall, without examination, issue a license to a reputable physician or surgeon who personally appears and presents a certified copy of a certificate of registration or a license issued to him in a state whose requirements for registration are deemed by said board as equivalent to those of this state, provided that such state accords a like privilege to holders of licenses granted under the laws of this state. The fee for such license shall be fifty dollars.

SEC. 4. Section 5368 of the Public Statutes is hereby amended so as to read as follows:

SEC. 5368. The standard of requirements for admission to practice in this state, under the preceding section, shall be as follows:

Academic: Preliminary requirements to be a high school education or its equivalent, such as would admit the student to a recognized university. The standards of such secondary schools shall be determined by agreement between the educational department of the state in which the applicant received such education and the state superintendent of education.

Medical: Four courses of lectures of nine hundred hours each, in four different calendar years prior to graduation from a medical college approved by the board. Practitioners graduated prior to nineteen hundred and one are exempt from this requirement.

Moral: Applicant shall present qualifications as to moral character and professional standing from two reputable physicians in the county in which he resides, and from the town clerk of his place of residence.

Examining: The examination in writing shall have embraced twelve subjects of ninety questions, viz.: anatomy, physiology, chemistry, pathology, bacteriology, hygiene, practice of medicine, surgery, obstetrics, gynecology, materia medica, therapeutics and legal medicine. The general average must have been at least seventy-five per cent. and no license shall be recognized when a lower rating has obtained.

SEC. 5. Section 5371 of the Public Statutes is hereby amended so as to read as follows:

SEC. 5371. A person who advertises or holds himself out to the public as a physician or surgeon, or who assumes the title or uses the words or letters "Dr." "Doctor," "Professor," "M. D.," "M. B.," in connection with his name, or any other title intending to imply or designate himself as a practitioner of medicine or surgery in any of its branches, and in connection with such title or titles, shall prescribe, direct, recommend or advise, give or sell for the use of any person, any drug, medicine or other agency or application for the treatment, cure or relief of any bodily injury, infirmity or disease, or who follows the occupation of treating disease by any system or method, shall be deemed a physician, or practitioner of medicine or surgery for the purposes of this chapter. The provisions of this chapter shall apply to persons professing and attempting to cure disease by means of "faith cure" "mind healing" or "laying on of hands" but shall not apply to persons who merely practice the religious tenets of their church without pretending a knowledge of medicine or surgery.

But the provisions of this section shall not apply to a person, firm or corporation that manufactures or sells patent, compound or proprietary medicine, that are compounded according to the prescription of a physician who has been duly authorized to practice medicine.

VERMONT STATE BOARD OF MEDICAL REGISTRATION.

EXAMINATION HELD AT MONTPELIER, JANUARY 12-14, 1909.

ANATOMY.

1. Name the bones of the face and describe any one of them.
2. Give the anatomy of the hip-joint.
3. Describe the sterno-cleido-mastoid muscle, and give its most important relations.
4. Describe the pericardium.
5. Give the origin and course of the pulmonary arteries.
6. Bound the popliteal space and name its contents.
7. Describe the portal circulation.
8. Describe the brachial plexus of nerves.
9. Give the course and relations of the ureter.
10. Describe the pancreas.

PHYSIOLOGY.

1. Describe protoplasm.
2. What do you understand by metabolism?
3. What is meant by proximate principles? Give examples.
4. Give in detail the function of the gastric juice.
5. Describe in detail the mammary gland.
6. Describe in detail the fallopian tubes, and functions.
7. Locate the ganglia of the sympathetic nervous system.
8. Where is the bile first formed? Trace its course to the intestines.
9. Give the variations within the limits of health, in the specific gravity of urine.
10. What is the condition of the eye in myopia, and how can it be corrected?

CHEMISTRY.

1. What is a residue or radical?
   Explain the nascent state of elements.
2. What are double salts?
   Show by symbols the action of sodium on water.
   Iron on sulphuric acid.
3. Give 3 reactions for hydrogen dioxide.
   What is the nature of its clinical reaction?
   Why is it of great clinical value?
4. What are lime-water and milk of lime?
5. How may lactic acid be detected in gastric juice?
6. How does O exist in blood?
   How are fats metabolized?
7. What are internal secretions?
   Mention some important nitrogenous and non-nitrogenous constituents of urine.

Answer any five questions.

SURGERY.

1. Give the symptoms of surgical shock, and mention means for its prevention and cure.
2. Differentiate the following diseases: Chancre and chancroid; gonorrhoea and simple urethritis; hydrocele of the cord and inguinal hernia; stone in the bladder and enlarged prostate; cystitis and abscess of the kidney; orchitis and hydrocele.
3. Give symptoms of peritonitis and mention the surgical diseases likely to cause it.
4. Give the symptoms of appendicitis, and describe in detail *your* surgical treatment.
5. Case: a man is picked up from a railroad track unconscious. An incision through the scalp reveals a fracture of the skull in the form of a triangle; the fracture is not depressed. What would be your treatment and why?
6. What conditions within the abdominal cavity demand a colostomy? Describe the operation.
7. Diagnose the following: Colle's fracture, Pott's fracture, fracture of the femur, intra-capsular fracture of the hip.
8. Define asepsis and antisepsis. Describe technique for bringing about both conditions.
9. Where would you elect to amputate between the knee and ankle? Describe the operation.
10. Give the etiology, pathology and symptoms of mastoiditis, and describe in detail the operation.

OBSTETRICS.

1. Define menstruation, ovulation, fecundation.
2. (a) What signs of pregnancy would you expect to find at the end of the second month? (b) What at the end of the fourth month?
3. (a) Give premonitory symptoms of miscarriage. (b) How would you try to prevent it?
4. Describe the three stages of labor, giving the phenomena of each in consecutive order.
5. (a) With what instruments, drugs, etc., would you equip your obstetric bag?
6. (a) When would you use anesthetics in labor? (b) What would you use? Give reasons for your choice. (c) What advantages would you expect to gain? (d) What dangers would you guard against?
7. (a) For what conditions would you use intra-uterine irrigation during the puerperium? (b) Give technique.
8. (a) Give general directions for the management of the breasts following confinement. (b) How would you treat the flow of milk if it was not desirable to nurse the child?
9. Give differential diagnosis between a face and breech presentation.
10. (a) What conditions might call for use of forceps where there was no disparity between the size of the child and the birth canal? (b) Describe application of forceps to the head at the pelvic brim.

PRACTICE.

1. Detail your mode of procedure in a case consulting you at your office for the first time for obscure internal disease.
2. Name all symptoms necessary to inquire into in a case pointing to disease of the respiratory organs.
3. (a) Name all of the causes of coma. (b) Differentiate between uraemic and apoplectic coma in a case you have never seen before.
4. What may convulsions indicate?
5. (a) Give differential diagnosis in the effusions of pleurisy. (b) Discuss the treatment for each.
6. (a) What are the symptoms of pulmonary infarct? (b) What chronic diseased conditions may be found in those seized with this affection?
7. What are the early symptoms of chronic interstitial nephritis?
8. Differentiate between small pox and chicken pox.
9. Give the treatment for chronic articular rheumatism.
10. What are dropsical effusions due to?

MATERIA MEDICA AND THERAPEUTICS.

1. Name three silver salts and state action of same.
2. Explain physiological action of atropine.
3. Name the bromide preparations and state difference in their action.
4. Explain the action of caffeine on the heart and kidneys.
5. From what is salicylic acid derived? Briefly describe action of same.
6. What is compound licorice powder?
7. Write a short article on serum therapy. Name diseases in which it is of great value.
8. Write a prescription for the following: Hemoptysis, Ozena, Acute Bronchitis, Pyemia.
9. Differentiate between alcohol and opium poisonings and apoplexy and give treatment of each.
10. State prophylaxis and treatment of chronic myocardial insufficiency.

PATHOLOGY.

1. What are the causes of disease?
2. (a) Give the etiology of atrophy. (b) Of hypertrophy.
3. (a) What is oligemia? (b) What is melanemia?
4. Discuss briefly the transmissibility of disease from bovine to human species.
5. What are the more common circulatory disturbances of the brain and their results?

BACTERIOLOGY.

1. Name three conditions essential to the growth of bacteria.
2. Give a detailed description of a microscopical examination of sputum for the detection of the tubercle bacillus.
3. Mention three conditions that retard or prevent bacterial growth.
4. Differentiate the gonococcus from other diplococci.
5. By what culture characteristics may the colon bacillus be distinguished from the typhoid bacillus?

HYGIENE.

1. What is the effect of continuous excessive exercise upon the human system?
2. How may hard water be converted into soft water for drinking purposes?
3. Name some of the nuisances dangerous to public health.
4. What are ptomains? How produced?
5. Mention three prominent symptoms which may be caused by drinking water received through lead pipe.

GYNAECOLOGY.

1. (a) Describe the vaginal tampon. (b) What are its uses?
2. (a) To what symptoms might an ovary in Douglas' cul-de-sac give rise? (b) How would you differentiate between it and a small uterine fibroid or a retroflexed uterus?
3. Give etiology and symptoms of subinvolution.
4. (a) Describe the placing of a pessary for retroversion. (b) How would you know that it fitted?
5. Give symptoms and treatment of uterine polypi.

LEGAL MEDICINE.

1. State your views on insanity when pleaded as a defense to a crime.
2. What is meant by malingering? Mention some of the means for detecting it in feigned epilepsy.
3. What would you expect to find in making an autopsy upon a woman dead of criminal abortion?
4. Differentiate between civil and criminal malpractice. Give examples.
5. What circumstances would lead you to suspect infanticide?

VIBRATION.—According to Sir William Crooks sound begins to the human ear at 32 vibrations to the sound of time. At 32,768 sound ends to the human ear and electrical waves begin at 34,359,738,368. Electrical waves end at 35,184-372,088,832. Light waves begin for the human eye at 1,125,899,906,842,624 and light waves end for the human eye at 288,220,376,151,711,744.

DR. WILEY, the pure food expert, about whom so much has been said lately, finds danger not only in the food we eat but oftentimes in the dishes from which we eat it. Recently he has extended the investigations of the Bureau of Chemistry of the Department of Agriculture to include the examination of cracked dishes taken from some of the "quick lunch" rooms of Washington. Lurking in the seams and cracks twenty-five different species of organisms were discovered by the bacteriologist of the department, a large number of them belonging to the colon group. In spite of the spotless appearance of the kitchens of some of these places, Dr. Wiley holds there is danger from them, since it is impossible to clean cracked dishes properly. The conditions found in Washington could doubtless be duplicated in any large city, and are probably of little importance in the dissemination of disease.

One of the yellowest of the yellow New York Sunday editions but a few weeks ago devoted one whole page to a startling discussion of these investigations by Dr. Wiley. Doubtless we will soon be refusing to eat from dishes which do not show a perfectly unblemished surface.—*Charlotte Med. Journal.*

It is stated that no student or teacher afflicted with tuberculosis will be tolerated in the University of Utah.

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

H. C. Tinkham, M. D., B. H. Stone, M. D., } .....*Editors.*
L. P. Sprague, M. D.....*Assistant Editor.*

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EDITORIALS.

The Merchants' Association of New York City has just issued a booklet setting forth in popular language the growing necessity for scientific sewage disposal and the best methods for accomplishing the result. This book is a reflection of the increase in popular interest in general matters of sanitation. This country has been a land of splendid distances, unlimited room, and little crowding. Feelings of affluence in resources from these conditions begat extravagance in their expenditure and we find cities and towns turning their sewage into the nearest water course with the result that the supplies of pure water of sufficient volume to serve the needs of the growing towns have become sadly limited at the same time that they are more and more needed. Expensive water filtration plants are a part of the harvest of this reckless sowing. It is high time that legislative bodies awoke to the need of preserving intact the few remaining supplies of pure water. It isn't as though the pollution of these water courses was a necessity for it is perfectly feasible to so treat the sewage of even large cities that it will be not only perfectly harmless but will produce side products of a commercial value nearly equal to the cost of the disposal. Such plants have been in operation for many years in English and Continental cities. Endless trouble and expense and suffering might have been avoided if American legislative bodies had early prohibited the discharge of raw sewage into water courses. Now the question of the priority of rights comes in and the city farther down on a water course must face long and doubtful litigation before it can hope to force a change in the sewage disposal methods of towns farther up. We were interested to note that our recently adjourned and much maligned legislature while refusing to pass an act prohibiting such pollution in certain specific instances, did pass such a measure covering all cases.

The Referee Board appointed by President Roosevelt to review the experiments and pass upon the decisions of Dr. Wiley of the Bureau of Chemistry, has completely reversed Dr. Wiley's decisions regarding the use of benzoate of soda as a food preservative. This material is used principally in catsups and in the strength of one-tenth of one per cent. Dr. Wiley concluded from the results of his investigations that it was a harmful preservative and should be excluded. The Referee Board as a result of investigations carried on under the direction of Prof. Christian A. Hurter of the Columbia University, Professor John H. Long of the Northwestern University and Professor Russell H. Chittenden of the Sheffield Scientific School, concludes:

"First—Sodium benzoate in small doses (under 0.5 gram per day) mixed with the food, is without deleterious or poisonous action, and is not injurious to health.

"Second—Sodium benzoate in large doses (up to 4 grams per day) mixed with the food, has not been found to exert any deleterious effect on the general health nor to act as a poison in the general acceptation of the term. In some directions there were slight modifications in certain physiological processes, the exact significance of which modifications is not known.

"Third—The admixture of sodium benzoate with food in small or large doses has not been found injuriously to affect or impair the quality or nutritive value of such food."

This is considered by some as a distinct defeat of the pure food law and Dr. Wiley, its strenuous advocate.

We have always felt that it was straining at a gnat to condemn the use of a substance, harmful at most only in considerable quantity, in such infinitesimal proportions as one-tenth of one per cent. in the preparations used as sparingly as condiments and catsups. The other materials, spices, vinegar, etc., used in the preparation of these condiments would of themselves be unwholesome long before a quantity of the material sufficient to be dangerous on account of its preservative was consumed. As a matter of fact these things are always eaten in small quantities and the only need of a preservative is to prevent fermentation after the original package in which they are put up is opened. It has been said that these substances were used to conceal inferiority, but it would be just as easy to sterilize and preserve impure and decayed fruit used in the manufacture of catsups at it would be to sterilize a catsup made from the first quality of fruit. These goods are always sterilized when placed on the market in unopened packages. We do not consider that this decision is in any way a failure on the part of the pure food law. It is simply a step in the honest settlement of some of the vexed questions that arise in the enforcement of this law and we can not doubt the honesty and carefulness of the investigators who had this matter in charge.

To the Editor of the

Vermont Medical Monthly:—

Your comments in the January number of the Monthly in regard to the optometry bill, which passed the General Assembly and has since received the approval of the governor, deserve attention. It is too late now to undo the blunder, for a serious blunder it is on the part of the medical fraternity who were caught napping, and awoke too late to see their mistake.

I am sure no physician has any personal grievance against the promotors of this bill, who are now laughing in their sleeve that they have so effectually hoodwinked us, but we are surprised that men of supposed good judgment should assume that they are proficient in medical knowledge, yet afraid or unwilling to bear the test before a board already provided. I am surprised that legislators too, whose supposed watchfulness over superfluous legislation, allowed this measure to prevail, especially after the evidence submitted to them showing so clearly the absurdity of the claims of its promotors.

Much credit is due to some officials of the Vermont Medical Society for even belated effort, and also to several oculists, who, not for any personal reasons, but in the public interest, saw the danger in the path of this pernicious act. On the other hand we are surprised at the indifference of others,—yea, some doctor legislators, who were so effectually hypnotized,—even those in whom we had implicit confidence as being loyal to their colleagues if not themselves.

The Board of Medical Registration felt impelled to use every honorable effort against it in the House, which it also did with the governor. We do not purpose to discuss in this article the arguments advanced, many of which you have mentioned, but our conscience is clearer and our sleep sweeter from the fact that no legitimate means were forgotten in our endeavors.

There is one point, however, that I wish to emphasize in regard to the future action of the Vermont Medical Society, of which this journal is the exponent. Let it be remembered that only by organized effort can we hope to have right prevail, nor shall we be recognized as promotors

of the public weal unless we show less indifference.

Until then we are endangered by the power of "cults" and "isms" which are hydra-headed enemies of the physician and his interests, and in favor of which in the future we may find, as we have recently,—a passive legislature. Between now and the next meeting of the Society let us think it over and *then* not forget to act.

W. Scott Nay.

Underhill, Vt., Jan. 26, 1909.

NEWS ITEMS.

Dr. E. A. Nichols has opened an office in Massena, N. Y.

Dr. O. G. Duhamel has been elected city physician of Marlboro, Mass.

A son was born Jan. 20 to Dr. and Mrs. H. E. Stetson of Oxford, N. H.

Dr. H. W. Newell has moved from Derry, N. H., to Manchester, N. H.

Dr. G. V. Fiske, formerly of Northwood, N. H., has located in Manchester, N. H.

A daughter was born January 31 to Dr. and Mrs. Arthur O. Morton of St. Albans, Vt.

Dr. A. B. Wetherell has been appointed a member of the Holyoke, Mass., Board of Health.

The marriage is announced of Dr. Paul Preble and Miss Blanche G. Loring, both of Auburn, Me.

Dr. C. E. Johnson has been appointed city physician of Portsmouth, N. H., and James H. Dow, health inspector.

Dr. Gustave Lafontaine has been appointed a member of the board of health of Manchester, N. H., to succeed Dr. J. A. Lanoutte.

Dr. A. F. Mulvanity who has recently located at Nashua, N. H., has been appointed chairman of the board of health of that city.

Dr. W. Hayes Mitchell, formerly of Burlington, Vt., is medical superintendent of Sheldrake Springs Sanitarium at Sheldrake, N. Y.

The January meeting of the Burlington and Chittenden County (Vt.) Clinical Society was held January 25. Dr. W. L. Wasson presented a paper on "Aphasia."

Dr. Walter C. Klotz of the Stony Wold Sanatorium in the Adirondacks has been appointed medical superintendent of the Vermont Sanatorium at Pittsford.

There have been 88 cases of typhoid fever in St. Albans, Vt., since the disease started last fall. Ten new cases were reported to the health officer during January.

Dr. Abbott T. Hutchinson has finished his term of service in the ear department of the New York Ear and Eye Hospital and has opened an office at 56 West 46th St., New York City.

The marriage of Dr. William M. Johnstone and Miss Vida Gwendolyn Ellis was solemnized at the home of the bride, Morrisville, Vt., February 1. They will reside at 55 Main St., Morrisville.

Dr. John M. Wheeler, who finished an eighteen months' service in the eye department of the New York Ear and Eye Hospital, has opened an office for the treatment of diseases of the eye at 64 West 40th St., New York City.

The regular meeting of the Rutland County (Vt.) Medical Society was held January 12. Dr. J. H. Bellrose read a paper on "Aerophagia." A resolution was adopted condemning the pollution of the waters of Lake Bomoseen.

It is announced that Mrs. S. A. Harrington of Winchester, Mass., has expressed her intention of giving $50,000 toward the support of a hospital in that town. Action is said to have been taken for the forming of a corporation.

The Fall River (Mass.) Medical Society at its annual meeting elected the following officers: President, Dr. John Westall; vice-president, Dr. J. A. Abbe; secretary, Dr. J. E. Huard; treasurer, Dr. D. R. Ryder; librarian, Dr. G. L. Richards.

Dr. Herbert A. White of Portsmouth, N. H., has been acquitted of the charge of murder in the second degree. Dr. White was indicted because of the death of a 19 year old girl which was said to have been caused by a criminal operation.

The annual meeting of the Boston Society of Psychiatry and Neurology was held at the Medical Library, Jan. 21. The paper of the

evening was presented by Dr. M. B. Hodgkins of Palmer, Mass., "The Prognosis and Treatment of Epilepsy."

Major George C. Berkley of St. Albans has resigned as surgeon of the Vermont National Guard, and Dr. George R. Anderson of Brattleboro has been appointed major and surgeon. Dr. John H. Dodds of Burlington has been appointed captain and surgeon.

The Massachusetts Board of Medical Registration reports the results of the examination held in Boston, November 10-12, 1908, as follows: Total number of candidates examined 77, of whom 53 passed, including 2 non-graduated, and 24 failed, including 2 non-graduated.

At the regular meeting of the Bennington County (Vt.) Medical Society held at Manchester, January 13, the following officers were elected: President, E. B. Daley of Bennington; vice-president, A. E. Houle of Bennington; secretary, L. E. Hemenway of Manchester; treasurer, F. W. Goodall of Bennington.

The Center District (N. H.) and Merrimack County Medical Society held its eighty-seventh annual meeting at Concord on January 12. The following officers were elected: President, Dr. John W. Staples, Franklin; vice-president, Dr. A. K. Day, Concord; secretary and treasurer, Dr. P. T. Haskell, Concord; delegates to the state convention, Drs. E. E. Hill and S. G. Morrill.

The York County (Me.) Medical Society at its fifteenth annual meeting held January 14, elected the following officers: President, Dr. R. S. Gove, Sanford; first vice-president, Dr. C. E. Thompson, Saco; second vice-president, Dr. F. E. Small, Biddeford; secretary, Dr. J. M. O'Connor, Biddeford; treasurer, Dr. L. L. Powell, Saco.

Dr. Mark W. Richardson has been elected by the Massachusetts State Board of Health as its secretary to succeed the late Dr. Charles Harrington. Dr. Richardson was graduated from Harvard College in the class of '89. Five years later, in 1894, he took his medical degree at Harvard and then went abroad, studying at Berlin and Vienna.

The Vermont State Board of Health is preparing a tuberculosis exhibit to be shown in different parts of the State. This exhibit will include maps of the State, showing the distribution of the disease in the different localities, model houses, porches for tuberculous patients to sleep on, charts showing the tuberculous lesions and illustrating the common methods of spreading the disease.

The annual meeting of the trustees of Elliott Hospital, Manchester, N. H., was held January 14. The superintendent's report showed that 310 patients had been treated during the year. The following staff was elected: Superintendent, Augusta C. Robertson; attending physicians, Drs. William H. Pattee, Charles F. Flanders, George M. Watson and Clarence M. Milliken; attending surgeons, Drs. J. Franklin Robinson, George P. Wilkins, David W. Parker, Arthur F. Weat; consulting staff, Drs. Hosea B. Burnham, William M. Parsons, George B. Towne, L. Melville French.

The report of the Vermont State Board of Pharmacy shows that during the past year the board examined 45 candidates, granted licenses to 14 and revoked 10 for various causes. It has issued licenses to 30 persons presenting certificates under the reciprocity arrangement who are now practicing in this state and have granted 23 certificates to persons who have gone to other states to practice. At present four of the New England States allow licenses to be granted on presentation of certificates from one of the other three states. These are Massachusetts, Vermont, Maine and Connecticut.

At the adjourned annual meeting of the directors of the Mary Fletcher Hospital, the following appointments were made:

Consulting surgeons: Drs. Henry Janes of Waterbury, W. B. Lund of Burlington, L. M. Bingham of Burlington, and E. M. Martin of Middlebury.

Consulting physicians: Drs. A. O. J. Kelly of Philadelphia, S. S. Eddy of Middlebury, H. H. Seeley of Richmond and C. H. Beecher of Burlington.

Board of visitors: Drs. C. M. Ferrin of Essex Junction, Lyman Allen, H. L. Wilder, G. I. Forbes, C. F. Dalton and G. M. Sabin and Mrs. Walter Carpenter, Mrs. C. S. Isham, Mrs. M. H. Buckham, Mrs. G. W. Wales, Mrs. M. C. Twitchell and Miss Julia Smith.

The regular meeting of the Franklin County (N. Y.) Medical Society was held January 12 at Malone. The president's annual address was

given by Dr. J. A. Dalphin of Malone. Papers were also read by Drs. Furness and Grant of Malone, Dr. La Vigne of Saranac Lake and Dr. Goodall of Kushaqua. Officers for the ensuing year were elected as follows: President, Dr. O. E. Moody of Dickinson Center; vice-president, Dr. E. R. Baldwin of Saranac Lake; secretary and treasurer, Dr. G. M. Abbott of Saranac Lake; censor, Dr. G. H. Oliver of Malone. Several committees were appointed, the most important being a milk commission established by authority of the state board of health. The commission has the power to inspect milk, meat, and other food products. This committee consists of Drs. McClellan, Baldwin and Truesdell of Saranac Lake, and Drs. Furness and Dalphin of Malone.

The annual meeting of the trustees of the Vermont Sanatorium was held at Pittsford, Jan. 28. The old officers were re-elected and one new member, Charles Crosby of Brattleboro, was added to the board in place of Carroll S. Page. The resignation of Dr. H. C. Chadwick, who has been with the institution since its beginning, was received, to take effect March 1, when Dr. Chadwick will go to Westfield, Mass.

The expense for each patient per week during the last year was shown to have been $13.59. Patients are required to pay but $7.50 weekly.

Dr. Chadwick's report for the year follows:

Number of patients admitted, 108; men, 39; women, 69.

Number of patients discharged from sanatorium, 76; remaining in, 32; total, 108.

Classifications according to recommendation of the National Association for the Study and Prevention of Tuberculosis:

Number of incipient cases	47
Moderately advanced cases	41
Far advanced cases	18
Non-tubercular cases	2
Number of patients apparently cured	9
Cases arrested	42
Cases improved	9
Progressive (stationary and failed)	15
Died	1
Number of patients who gained in weight	67
Lost in weight	9
Average gain in weight	10.6 pounds
Greatest gain to any individual	30 pounds
Average term of stay	13.8 weeks
Number who remained one week or less	4

Geographical distribution by counties: Addison 19, Bennington 3, Caledonia 2, Chittenden 13, Franklin 3, Grand Isle 1, Lamoille 2, Orange 1, Orleans 4, Rutland 28, Washington 12, Windham 8, Windsor 12.

Classification according to occupation: Housewives 39, granite cutters 5, marble workers 3, housework 7, students 11, farmers 3, dressmakers 3, bookkeepers 3, teachers 6, merchants 4, carpenters 3, nurses 2, bookbinder, painter, weaver, clerk, blacksmith, dentist, coachman, laundryman, telephone operator, shoeworker, barber, machinist, messenger, electric crane operator, jeweler, slate quarryman, hotel keeper, customs inspector, electrician, one each.

OBITUARY.

Dr. C. P. Gerrish of South Berwick, Me., died at his home, February 3. Dr. Gerrish was one of the oldest practitioners of Maine, having graduated from Bowdoin Medical College in 1855.

Dr. H. V. Noyes of Berwick, Me., died at his home, Jan. 30.

Dr. Deane Richmond of Windsor, Vt., died at his home, February 1st of tuberculosis, aged 47 years. Dr. Richmond was born in Woodstock, Aug. 20, 1861, the son of Dr. J. S. Richmond. He attended the schools of that town and later the Medical Department of the University of Vermont, graduating in 1882. He had practiced his profession in Windsor practically all the time since then. He was married to Miss Ellen A. Whitney of Woodstock in 1885, who survives him with five children. Dr. Richmond was physician at the Vermont State Prison and a member of the Windsor County and Vermont State Medical Societies.

Dr. Charles Denison of Denver, Col., died at his home, January 10, of gangrene following cholecystitis. Dr. Denison was a specialist in the treatment of tuberculosis giving especial attention to climatology. He graduated from the Medical Department of the University of Vermont in 1869.

Cow's Milk Containing Iron.—The cows are fed with a prepared fodder, which insures that the milk contains a certain proportion of iron. Schnütgen (*Berlin. Klin. Woch.*, Vol. XLIV., No. 47) reports from Senator's clinic 9 cases of debility in adults in which great benefit was apparently derived from ingestion of a quart of this milk daily.—*Journal of the American Medical Association.*

VERMONT STATE MEDICAL SOCIETY PROCEEDINGS.

The Ninety-fifth Annual Meeting of the Vermont State Medical Society was held in the Grand Army Hall, Rutland, Vt., October 22 and 23, 1908, the meeting being called to order by G. H. Gorham of Bellows Falls, President of the Society.

Prayer was offered by Rev. Dr. Spence of Rutland.

On motion of Dr. Stone the reading of the minutes of the last meeting was omitted.

The Secretary read his report, which was approved.

B. H. Stone, Treasurer of the Society, read his report as Treasurer for the past year, and the report was approved.

The Executive Committee made report through the chairman, Dr. Gorham, that the only business it had transacted during the year was in regard to the postponement of the meeting of the Society.

The Secretary read the report of the Publication Committee, which was duly approved.

The Secretary read the report of the Legislation Committee, which was approved and referred to the House of Delegates.

Dr. Gorham suggested that as a large number of deaths had occurred during the past year, the Secretary read the list of deceased members, which was done.

Dr. J. N. Jenne's report as delegate to the American Medical Association was read by the Secretary.

Dr. Gorham reported that no delegate was appointed to the New Hampshire Medical Society. Later the Executive Committee appointed Dr. Lee and Dr. Gorham delegates, but they did not attend.

The report of Dr. H. C. Tinkham, delegate to Dartmouth Medical College was read and accepted.

Dr. C. W. Strobell, member of the Committee of Arrangements, made the report for that committee.

Dr. Caverly on behalf of the Trustees of the Vermont Sanitarium extended an invitation to all physicians attending the meeting, to take a trip to Pittsford to visit the Sanitarium, and announced that all arrangements had been made as to transportation, etc., the trip to take place on the afternoon of the 23rd.

Dr. G. H. Gorham, after the completion of the reports of the different officers and delegates, retired, leaving Dr. Caverly to preside during the rest of the session, thanking the officers and members for all honors conferred upon him.

Dr. Goss of Taunton, Mass., delegate from the Massachusetts Medical Society, being introduced, made remarks, indicating his pleasure at being able to be present to represent the Massachusetts Medical Society, conveying greetings and good wishes from that Society to the Vermont Society.

The paper of Dr. Arthur O. Morton, the first number upon the programme, was postponed as the doctor had not arrived.

Dr. S. W. Hammond read an interesting paper on "Infectious Diseases"—being the second upon the programme. Discussion was taken up by Drs. C. F. Dalton, H. D. Holton and H. L. Waterman.

On motion of Dr. Hanrahan a vote of thanks was given Dr. Hammond for his paper.

The paper on "Valvular Lesions of the Heart" was next read by A. O. Morton.

(Discussion).

The next paper was "Puerperal Eclampsia," by Dr. W. N. Bryant of Ludlow. It was an interesting resume of the subject, with report of present treatment and case histories. It was discussed by Drs. C. M. Campbell and E. G. Roberts, C. C. Perry, C. F. Ball, A. C. Bailey, C. W. Bartlett, C. F. Dalton and S. E. Maynard.

Adjournment taken at 12.00 o'clock.

THURSDAY P. M., 2.00 O'CLOCK.

The first paper to be read in the afternoon was "The Anatomical Basis for Successful Repair of the Female-Pelvic Outlet," by Prof. Irving S. Haynes, of New York City, with demonstrations upon specimens. Discussion of this paper was taken up by Drs. S. E. Maynard and C. W. Strobell.

Dr. B. H. Stone of Burlington read a paper, "Some of the Less Known Properties of the Blood." Discussion was taken up by Dr. C. F. Ball.

Prof. Godfrey R. Pisek of New York City, read a paper on "The Differential Diagnosis of Scarlet Fever" with special reference to the Scarlatiniform Eruptions," which was listened to with interest. This was discussed by Drs. E. R. Clark, J. H. Blodgett and C. H. Beecher.

THURSDAY P. M., 5.00 O'CLOCK.

The annual meeting of the House of Delegates was called to order at 5.00 o'clock by the Secretary, C. H. Beecher, who asked for a ratification of the election of W. L. Havens as President, and C. F. Dalton, as Clerk. This was voted, and Dr. Havens took the chair.

Roll-call by the Clerk showed 21 delegates and 11 alternates present. Minutes of the last meeting were read and approved. W. N. Bryant read the report of the Committee on permanent meeting place, which was accepted and adopted. Report follows:

"To the House of Delegates,
Vt. State Medical Society.

Gentlemen:—

One year ago, Dr. Jenne, Dr. M. L. Chandler and myself were appointed a committee to report upon the matter of securing an appropriate place for storing the books and records of the society, as well as to consider the advisability of a permanent or stated place for the meetings of the society, at least a part of the time. The plan discussed by the society and considered by the committee was to locate the meetings of the society at Burlington each alternate year, the remaining meetings to be held in different places, as at present. In the absence of the Chairman, Dr. Jenne, I am presenting at his request this report.

Regarding the care of the records, correspondence has been had with Dr. Tinkham of the Faculty of the Medical College, and the result of that is embodied in a letter from him which I enclose with this report. In view of this letter referred to, we are of the opinion that a satisfactory arrangement can and should be made with the authorities of the College for the care and safe-keeping of such books and records as the society may possess, with the hope that it may serve as a nucleus for a medical library. Certainly in its present state it is in no condition to attract benefactions.

Regarding the question of a permanent meeting-place, either constantly or a part of the time, we find such a diversity of opinion among the members of the society and also among the members of the committee, that we do not feel at liberty to make any recommendation in this particular, but would rather

refer the matter to the society at large for a more full discussion and expression of individual opinion.

Respectfully submitted,
W. N. BRYANT, For Committee."

The Report of the Committee on Branch Associations of the American Medical Association was read by the Clerk, and accepted. The report is as follows:

"Your Committee on Branch Association of the American Medical Association, respectfully submit the following report:

In response to repeated solicitations from various inter-state societies for authority to organize branch associations of the American Medical Association, a Committee on Organization recommended that permission be given for the organization of seven branches, so arranged as to cover the entire country. Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, Maine, New York, and New Jersey, were included in the 'North Branch Association.'

As most of the states with which Vermont would be associated in branch meetings have voted against the organization of a branch association, your committee recommend that it is inexpedient for the Vermont State Society to take action favoring the organization.

WALTER L. HAVENS,
E. S. ALBEE,
M. L. CHANDLER.

Rutland, Vt., October 22, 1908."

Under the head of "Unfinished Business," the amendment to Article III of the Constitution, as presented last year, was read by the clerk, and adopted as read, on motion of C. S. Caverly, seconded by F. R. Stoddard.

"ARTICLE III OF CONSTITUTION.

OFFICERS.

The officers of this Society shall be a President, Vice-President, Secretary, Treasurer, Auditor; a Publication Committee of three (3) members, of which the Secretary shall be chairman; Executive Committee of three (3) members, of which the Secretary shall be one ex-officio; a Committee of Necrology of three (3) members; Committee of Legislation of three (3) members—all of whom shall be elected annually and shall hold their respective offices until the close of the next annual meeting and until their successors are elected.

There shall also be a Committee on Medical Education of three (3) members, to be elected for one, two and three years respectively, and thereafter one (1) member elected each year to serve for three (3) years and until his successor is elected.

There shall be nominated by the House of Delegates each even year, two (2) members whose names shall be submitted to the Governor for appointment to the Board of Medical Registration, in accordance with the provisions of the laws of the State."

The resolution regarding contract work, discussed in 1906, was again taken up for discussion.

L. W. Burbank moved that the original resolution be amended by inserting "1909," in place of "1907," and striking out the clause relating to consultation. This was seconded by M. L. Chandler, and discussed by A. L. Miner, H. C. Tinkham, F. E. Clark, A. O. Morton, C. S. Caverly, W. E. Lazelle, and C. C. Perry. C. S. Caverly moved a second amendment, to insert the word, "fraternal" before the word "organization," and to strike out the words "or corporations," wherever they occurred. This was seconded by A. O. Morton, and discussed by L. W. Burbank, H. H. Hopkins, J. M. Hamilton, and M. B. Hopkins. On call for the question, the chair called for a vote on the second amendment, which was declared adopted. The question was then put on the first amendment, which was also adopted.

The original resolution, as amended, was then adopted as follows:

"On and after the first day of January, 1909, no member of this society shall accept the position of club, society, lodge, or fraternal organization physician, or agree, or continue to do any medical or surgical work for any club, society, lodge or fraternal organization at a less rate than the regular or customary charges for like services rendered by other physicians in the same locality for patients not members of such club, society, lodge, or fraternal organization.

Also, that in no case shall any physician agree to attend the families of the members of such club, society, lodge, or fraternal organization, at half price or less price than the regular rate.

Nothing in this section shall be construed as preventing any member from attending the worthy poor, or to give free services to those too poor to pay anything.

Any violation of this article shall be considered unprofessional conduct, and it shall be the duty of the House of Delegates to expel such members when proof of such conduct shall be presented to them."

Dr. Marvin presented the following changes in the Constitution, which were ordered laid on the table for action next year:

ARTICLE II OF CONSTITUTION.

Strike out paragraph 3 and add to paragraph 2, "*An alternate for each delegate shall be elected at the same time.*"

Strike out the last clause of 4th paragraph of Article II, beginning, "and may elect two members."

In place of the last sentence of Article II—

"They shall elect their own officers and may adopt such By-Laws and Regulations for their own procedure as are not in conflict with the provisions of this Constitution and By-Laws."

ARTICLE V OF CONSTITUTION.

"The active membership of this Society shall consist of the Active Members of the affiliating County Societies, whose dues to the State Society are paid on or before the last day of each fiscal year."

Also revision of the By-Laws, which on separate motions were adopted and read.

ARTICLE I OF THE BY-LAWS.

SECTION X.

"The Committee on Medical Education shall keep themselves fully informed regarding the standards of medical education in the various states; note how these standards compare with those of their own State and embody the facts learned, with any recommendations, in an annual report to the State Society."

ARTICLE II OF THE BY-LAWS.

SECTION I.

"The fiscal year of this Society and of the affiliating County Societies shall begin October 1st."

SECTION II.

"Each County Treasurer shall, each fiscal year, collect from each member of his County Society the sum of $2.00, for the State Society, in addition to any amount that may be voted by the County Society for its own use. The County Treasurers shall forward to the State Treasurer on or before the last day of each fiscal year all such dues, with a list of the members whose dues are therewith paid."

SECTION III.

"Any member who shall fail to pay his dues for a period of one year shall be dropped from the Society and his name stricken from the roll of membership, and he shall be so notified by the secretary."

SECTION IV.

"Any member who has been dropped from the Society for the non-payment of dues, may be reinstated by paying all arrears.'

SECTION V.

Same as present Section IV of Article II.

ARTICLE V OF THE BY-LAWS.

"One or more members shall be appointed by the Secretary to open the discussion on each paper to be presented at any meeting."

ARTICLE XIV OF THE BY-LAWS.

Voted it be dropped; it is obsolete.

ARTICLE XVI OF THE BY-LAWS.

"In counties not having a society, any physician in good standing may become a member of the Society of any adjoining county."

It was moved by F. R. Stoddard that the salary of $50 per year formerly paid to the Secretary of the State Society be continued for the current and for the preceding years not covered by the By-Laws, and that an article be incorporated into the By-Laws to the effect that the Secretary receive his expenses, and $50 per year salary. This was seconded and carried.

The House then proceeded to the election of officers.

H. C. Tinkham presented the name of C. W. Peck of Brandon for President, and Dr. Peck was duly elected.

F. L. Osgood nominated for Vice-President, Dr. S. W. Hammond of Rutland. Dr. Hammond was elected.

F. R. Stodard nominated C. H. Beecher for Secretary. Dr. Beecher was elected.

Dr. Marvin presented the name of Dr. B. H. Stone of Burlington for Treasurer, and Dr. Stone was duly elected.

Dr. J. H. Blodgett of Bellows Falls, was nominated for Auditor by F. R. Stoddard, and duly elected.

On motion of Dr. F. R. Stoddard, seconded by J. M. Hamilton, the chair appointed a committee of three (3) to present nominations for the remaining officers and committees, this committee consisting of D. Marvin, J. M. Hamilton, and A. L. Miner.

A. O. Morton extended an invitation to the Society to hold its next meeting at St. Albans.

M. B. Stanley invited the Society to meet at White River Junction.

By vote of the House, White River Junction was chosen as the meeting-place for the next annual session.

The meeting then adjourned until Friday at 8.30.

THURSDAY EVENING, 8.00 O'CLOCK.

The annual address of the President, G. H. Gorham, entitled "Specialism in Medicine," was read by C. H. Beecher; discussion being taken up by Drs. M. C. Twitchell, F. R. Stoddard, C. S. Caverly, Croft, J. S. Hill and G. R. Pisek.

After closing the discussion of this paper, the meeting was adjourned to Friday morning at 9.00 o'clock.

Immediately after adjournment the annual banquet was served at the Berwick House, which was attended by a large number of the members, with ladies, H. C. Tinkham as Anniversary Chairman.

FRIDAY MORNING, 8.45 O'CLOCK.

The adjourned meeting of the House of Delegates was called to order Friday morning at 8.45, by the President.

Minutes of the previous meeting were read and accepted.

The report of the Committee on Nominations was read by Dr. Marvin, as follows:

OFFICERS OF HOUSE OF DELEGATES.

President .....M. L. Chandler.
1st Vice-President .....H. H. Lee.
2nd Vice-President .....W. L. Slayton.
Secretary .....C. F. Dalton.

COMMITTEES.

Executive—C. W. Peck, C. H. Beecher, A. I. Miller.
Publication—C. H. Beecher, A. O. Morton, F. E. Farmer.
Legislation—Geo. H. Gorham, Lyman Allen, A. B. Bisbee.
Necrology—J. B. Wheeler, L. M. Kelley, B. D. Longe.
Medical Education—W. N. Bryant, D. D. Grout, S. S. Eddy.
Anniversary Chairman—F. S. Hutchinson.
Names to be presented to Governor on Board of Registration—H. L. Waterman, A. B. Bisbee.

DELEGATES.

American Medical Association—James N. Jenne.
Massachusetts Medical Society—C. F. Ball, W. S. Nay.
Rhode Island Medical Society—Geo. R. Anderson, L. H. Ross.
New Hampshire Medical Society—Dean Richmond, E. M. Brown.
Connecticut Medical Society—E. S. Allbee, F. H. O'Connor.
Maine Medical Society—C. M. Campbell, C. A. Crampton.
New York Medical Society—S. E. Maynard, C. W. Strobell.
White River Medical Society—John Stevenson, J. H. Judkins.
University of Vermont Medical College—A. Davidson, M. R. Crain.
Dartmouth Medical College—C. S. Caverly, H. C. Tinkham.

A. L. Miner suggested that the delegate to the American Medical Association be allowed to elect his own alternate. This was incorporated in the report.

Dr. Stoddard moved the adoption of the report, and the election of the officers, delegates and committees, as read.

Seconded by J. M. Hamilton, and carried.

Dr. Marvin then presented the following additional amendment to Article II of the Constitution, which was tabled for one year:

"No member of the House of Delegates shall be eligible to the office of President, Vice-President, Secretary, Treasurer, or Auditor of the Society."

Referring to a location for a library and permanent meeting-place, F. R. Stoddard moved that the Secretary and Treasurer of the Society be instructed to confer with Dr. H. C. Tinkham in regard to a room at the Medical College in which the records of the Society may be kept. This was seconded by M. L. Chandler and carried.

Dr. Stoddard then moved that beginning with 1910, the Vermont State Medical Society meet every other year in Burlington. This motion was seconded by M. L. Chandler, H. C. Tinkham, J. M. Hamilton, C. H. Hazen, F. R. Stoddard, L. W. Burbank and C. B. Ross. The motion put to vote and lost.

Wm. Lindsay asked that Drs. Beecher and Stone be granted permission to present a matter for the consideration of the House. This was allowed by the chair.

Dr. Stone explained that a confusion had arisen in regard to the dues of the Washington County Society, by which there was a difference of $38.00, between the County and the State records.

Wm. Lindsay also spoke on this matter, which was further discussed by H. C. Tinkham, C. H. Beecher, C. S. Caverly, B. H. Stone, J. M. Hamilton, F. E. Clark and L. W. Burbank.

Dr. Tinkham moved that the amount of the difference, $38.00, on account of the Washington County Society, be rebated. This was seconded by Dr. Hamilton and carried.

A. L. Miner stated that in his opinion the State should provide some remuneration for loss of time caused to quarantined families, and asked for discussion on the subject. Drs. Tinkham, Lindsay, Caverly, and Chandler spoke in discussion.

Dr. Miner then moved to refer this matter to the Legislative Committee to investigate and bring the subject before the House at the next regular meeting.

Dr. Tinkham seconded the motion, which was carried.

The following Amendment to By-Laws of the House of Delegates was adopted:

"The meeting of the House of Delegates shall be held at 5 o'clock, P. M. on the first day of each annual meeting."

Adjourned at 9.40 on motion of F. R. Stoddard.

DELEGATES PRESENT.

Addison County—P. L. Dorey, G. F. Edmunds.
Bennington County—J. B. Woodhull, L. M. Kelley.
Caledonia County—E. H. Ross, W. J. Aldrich.
Chittenden County—F. R. Stoddard, F. E. Clark, H. C. Tinkham, C. F. Dalton, D. Marvin, H. D. Hopkins.
Franklin County—Ray Patten, A. O. Morton.
Lamoille County— ———— ————.
Orleans County— ———— ————.
Rutland County—G. D. Parkhurst, O. C. Baker, C. S. Caverly, J. M. Hamilton, H. L. Martyn, C. C. Perry.
Washington County—W. E. Lazelle, L. W. Burbank, A. C. Bailey, W. L. Chandler, Wm. Lindsay, J. P. Gifford.
Windham County—W. L. Havens, A. L. Miner, H. L. Waterman, F. L. Osgood.
Windsor County—C. H. Hazen, M. B. Stanley.

Respectfully submitted,
C. F. DALTON, Secretary.

FRIDAY MORNING, 9.40 O'CLOCK.

The first paper on the programme for the morning was by Prof. E. W. Scripture of New York City, and entitled "Speech Defects and Voice Culture," being read in the Opera House, illustrated with lantern slides, and his methods were demonstrated upon patients by Dr. Scripture. Dr. G. G. Marshall took up the discussion of this very interesting paper.

The next number on the programme was "The Surgical Aspect of Inflammation of the Biliary Tract, whether or not accompanied by Gall-stones," which was read by Dr. H. C. Tinkham.

Dr. M. R. Crain read a paper on "Conservatism in Surgery." Discussion of both of the above papers was taken up by Drs. H. H. Swift and Lyman Allen of Burlington.

Dr. H. D. Chadwick of the Pittsford Sanitarium, presented a paper on "Sanitarium Treatment of Tuberculosis," discussion of same being taken up by Drs. A. J. Valleau and W. F. Hazelton.

At which point the meeting adjourned.

On Friday afternoon the members of the Society and ladies who desired to accept the invitation, visited the Vermont Sanitarium at Pittsford.

BOOK REVIEWS.

DISEASES OF THE SKIN AND THE ERUPTIVE FEVERS.—By Jay Frank Schamberg, M. D., Professor of Dermatology and Infectious Eruptive Diseases, in the Philadelphia Polyclinic and College for Graduates in Medicine. Octavo of 534 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1908. Cloth, $3.00 net.

Professor Schamberg divides the study of Dermatology into two classes of affections. First, the diseases of the skin or the ordinary dermatoses, and second, the rashes of the eruptive fevers. Under Diseases of the Skin he takes up the anatomy and physiology of the skin and symptomatology. The diseases are then classified as follows: anemias, hyperemias, inflammations, hemorrhages, hypertrophies, atrophies, new growths, anomalies of secretions of glands and neuroses of the skin. Actinotherapy and radiotherapy are then discussed. Under acute eruptive fevers, small pox, vaccination, chicken pox, scarlet fever, measles, rubella and the acute infectious diseases which are at times accompanied by eruptions, as typhoid, influenza, malaria, cerebrospinal meningitis, rheumatic

fever, etc., are fully treated. Lastly, several pages are devoted to serum eruptions. The index is especially complete and well arranged which adds not a little to the value of the book. The subjects are treated in a brief, practical and concise manner, especial attention being devoted to symptomatology, diagnosis and treatment. As is usual in text books of dermatology this work contains many cuts and illustrations, most of which are original. This book will doubtless find its place in a field already well filled with literature.

A Manual of Clinical Diagnosis.—By James Campbell Todd, M. D., Associate Professor of Pathology, Denver, and Gross College of Medicine, Denver. 12 mo. of 319 pages with 131 text-illustrations and 10 colored plates. Philadelphia and London; W. B. Saunders Company, 1908. Flexible leather, $2.00 net.

This book which has its origin in a set of notes used by the author in lecturing to his classes of medical students is an admirable treatment of the subject for the student and general practitioner. The more complicated methods which would be unavoidable to any one except the specialist are not emphasized while the simple technique is accurately described. The book contains chapters on the sputum, the urine, the blood, stomach contents, feces, animal parasites and miscellaneous examinations. While it will not take the place of the more full and elaborate treatise on these subjects we venture to say that it will much better fill the popular demand.

A Text-Book of General Bacteriology.—By Edwin O. Jordan, Ph. D., Professor of Bacteriology in the University of Chicago and in Rush Medical College. Octavo of 557 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1908. Cloth, $3.00 net.

This work is an extremely well arranged and written treatise upon the important branch of parasitology. The author's large experience in practical bacteriology renders him especially fitted to treat the practical phases of the subject and the chapters upon bacteriology of milk, water, air and soil are especially well written as are also the chapters upon infection and immunity. The work will take its place among the best treatises on medical bacteriology.

International Clinics, a Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and Other Topics of Interest to Students and Practitioners.—By Leading Members of the Medical Profession throughout the world. Edited by W. T. Longcope, M. D., Philadelphia, U. S. A., with the collaboration of Wm. Osler, M. D., John H. Musser, M. D., A. McPhedran, M. D., Frank Billings, M. D., Chas. H. Mayo, M. D., Thos. H. Rotch, M. D., John G. Clark, M. D., James J. Walsh, M. D., J. W. Ballantyne, M. D., John Harold, M. D., Richard Kretz, M. D. With regular correspondents in Montreal, London, Paris, Berlin, Vienna, Liepsic, Brussels, and Carlsbad. Volume IV. Eighteenth Series, 1908. Philadelphia and London: J. B. Lippincott Company.

The present number of this well known series contains four articles on treatment, four on medicine, five on surgery, three on gynecology and obstetrics, one on hygiene, two on neurology, one on laryngology, two on pediatrics and two on pathology. The articles are well written and in keeping with high standard already set by the *International Clinics.*

Principles and Practice of Physical Diagnosis.—By John C. DaCosta, Jr., M. D., Associate in Clinical Medicine, Jefferson Medical College, Philadelphia. Octavo of 548 pages, 212 illustrations. Philadelphia and London. W. B. Saunders Company, 1908. Cloth, $3.50 net.

The subject matter covered in this work includes methods and technic of physical examination, examination of the thorax, examination of the broncho-pulmonary system, diseases of the broncho-pulmonary system and mediastinum, examination of the cardio-vascular system, diseases of the cardio-vascular system and examination of the abdomen and the abdominal viscera. The author presents within reasonable compass, the principles of physical diagnosis together with their application in the study of thoracic and abdominal diseases. Attention is given to clinical anatomy and to the origin, mechanism, and meaning of normal physical signs, while, at the same time, pathology and diagnosis are given commensurate prominence. Especial mention should be made of the original illustrations which are so clear and well executed that they will prove helpful not only to the junior student but to the more advanced practitioner.

The Arteries of the Gastro-Intestinal Tract with Inosculation Circle.—By Byron Robinson, B. S., M. D. Price $1.50. Chicago Medical Book Co., Chicago, Ill.

This little book is intended to cover the circulation of the gastro-intestinal tract with special reference to the anastomosis of these arteries. It is profusely illustrated and certainly attains the object for which it was intended.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

A NATIONAL HEALTH DEPARTMENT.

What has been done for the securing a better and stronger national control of health matters, and the reasons why more has not been done, are told by C. A. L. Reed, Cincinnati, in *The Journal A. M. A.*, November 28. He shows that the previous failures to obtain the needed legislation were due in part to the fact that the measures were premature in that they preceded the actual education of the people as to their real needs, that they were too radical and were framed without sufficient consideration of the fact that most legislation must be built on previous legislation and is, therefore, essentially evolutional in character; and also, in no small measure, to the dearth of representatives of the medical profession in our national legislature. The dissemination of information to the public in regard to medical problems has not been so widespread or efficient as it should be; there is need of a popular propaganda on this subject and the economic importance of the conquest of preventable disease should be especially set forth before the public. The public departments now existing, that have to do with health matters are doing excellent work, but they are too scattered and unorganized to do the needed efficient work. The scattered agencies we possess are given such an unfortunate status in our present scheme of government as to compromise their educational value and practically to deprive them of moral force. There should be more representatives of the medical profession in our national councils. When it is recalled that in the Sixtieth Congress there are but four physicians in the House of Representatives, and but one in the Senate, and when we compare this representation with the forty physicians in the Senate and fifty-six in the Chamber of Deputies of France, it is apparent, Reed says, that, of the two republics, our country is not deriving the benefit it should receive from the medical profession in its legislation. The inadequacy of state laws and their lack of uniformity make it impossible to meet the conditions by their means alone. Anything like uniformity of state laws will probably not be reached until measures formulated by a sort of council of states are passed by their respective legislatures. Something like this is imperatively demanded. As regards the part to be taken by the national government, Reed thinks that there should be no absolutely new legislation undertaken as an initial step. The first thing to be done is to assemble all existing public health agencies and to coordinate them under a single head, leaving each to continue its activities under existing laws, supplementary laws to be enacted as they are afterward indicated. Whatever its distinctive title, there should be one great governmental agency to conserve the public health and it should be accorded a status befitting its dignity and worth.

INFANTILE DIGESTION.

A. Friedlander, Cincinnati (*Journal A. M. A.*, December 19), has employed Einhorn's bead test in the study of the digestion in very young children, even new-born infants. While he gives his results in detailed tabulated form, the principal object of his paper is to describe the method which he found practicable and to point out its value. Einhorn's method, briefly, is as follows: Small pieces of various foodstuffs are fastened to small glass beads by silk thread. The beads are strung together by an additional thread, and the string of beads, with attached foodstuffs, is put into small gelatine capsules. These capsules are swallowed by the patient and the string of beads is later recovered from the stool, the exact time of its passage, between the swallowing and the finding, being noted. If the beads remain in the tract over fifty hours the results are not considered reliable, because of the possibility of degeneration from the action of the intestinal bacteria. In older children, able to swallow capsules, Friedlander adopted Einhorn's method, except that all of the foodstuffs were enclosed separately in small bags of wide-meshed gauze so as to eliminate the possibility of error from their tearing loose from the bead. In young children and infants he used single beads, each with an attached gauze bag, and inserted this, with the contained food, into the end of a previously sterilized piece of rubber catheter. This was then pushed down into the child's stomach and the bead and bag pushed out by an olive pointed Otis bougie into the stomach. The procedure was found surprisingly easy and harmless. While he can draw no sweeping conclusions from his limited number of experiments, it seems to him that the method is a very promising one for the study of the digestive processes in infancy and early childhood. The results of the experiments with sweetbread, with special reference to nuclear digestion and the proof thereby afforded of pancreatic activity from birth, are certainly suggestive. A profitable field of inquiry may thus be opened. The test may also be found clinically useful in infancy by indicating the special form of food that is imperfectly digested, and pointing out a rational alimentary therapy. A number of tables accompany the paper.

THE OPERATIVE TREATMENT OF INTRAORAL CANCER.

Charles P. Childe (*British Medical Journal*, Jan. 2, 1909). To sum up, the following are the two main principles advocated in the present communication in the operative treatment of cancer of the tongue and floor of the mouth:

The neck should always be attacked first, with ligature of the lingual and facial arteries on one or both sides. This manoeuvre reduces the excision of the primary growth, provided that it can be extirpated without division of the jaw to an insignificant and bloodless operation, which can consequently be frequently performed without danger immediately after the neck operation. It enables the primary growth to be removed with greater precision. It does away with all necessity for preliminary laryngectomy or tracheotomy. It cuts off the blood supply to the tumor in the interval, if the operation has to be divided into two stages. It will possibly strave cancer cells which may be left behind after attempted extirpation of the disease. In my experience it is the key to the operation.

The second principle is that a communication between the mouth and a large wound in the neck should always be avoided where possible. Unless the disease be situated in the tonsil or its neighborhood, and except the patient insist on a single operation, this can always be accomplished by dividing the operation into two stages in those cases in which for the satisfactory removal of the disease the lower jaw requires division. The neck, as before, is attacked first

and the lingual and facial arteries are tied. When, in a fortnight the large wound in the neck is healed, the jaw is divided and the primary growth is excised as before bloodlessly. In conclusion as regards final results, early diagnosis is the only hope. With this view, the therapeutic test of cancer, iodide of potassium, should be relegated to the limbo of dangerous playthings. Immediate microscopic examination of a piece of the growth should be the only test and the therapeutic test should never be employed unless the microscopic report is doubtful. It should then be pushed rapidly, and its effects not watched too long.

APPENDICOSTOMY WITH NOTES ON THE SURGICAL ASPECT OF COLITIS.

J. Bernard Dawson, M. B., gives in the *British Medical Journal*, January 9, 1909, the following indications for appendicostomy: 1. Irrigation and medication of the colon. 2. Obstinate and protracted constipation. 3. Drainage of the caecum and relief of abdominal distension. 4. Nutritive purposes. 5. Irrigation and medication of the lower ileum. Dawson furthers says: the use of appendicostomy for colitis was preceded by the operation of right inguinal colostomy and caecostomy. Right inguinal colostomy is not easy to perform; it is difficult to perform satisfactorily, and places the patient in a most unenviable position. The constant flow of fluid, irritating faeces over the surface of the wound and surrounding skin, soon to become excoriated and sore, is most distressing, requires the constant attention of a nurse, and prolonged sojourn in bed. It is true that by this operation the faecal stream is entirely diverted away from the colon, which is thereby given greater rest; but the complete daily evacuation and irrigation possible with appendicostomy seems to be sufficient for the purpose. Cases of colitis have a well known tendency to relapse, and it is not easy to decide when to close the colostomy wound, for, having once closed it, the opening is not readily reestablished. With appendicostomy, however, if after treatment has been stopped, the opening be allowed to stenose naturally, which it will readily do, it gives no trouble, and can be dilated at a later date with suitable bougies, presence of the mucous membrane preventing complete closure of the fistulous tract. For very similar reasons the operation of caecostomy has been superseded by appendicostomy. Caecostomy is more difficult to perform and more difficult to close. There is practically always more leakage of faeces, and the result for the patient unsatisfactory. When done to divert the intestinal contents from the colon the result is imperfect, since the diversion is incomplete.

METHODS AND RESULTS OF DRAINAGE IN TWENTY-TWO CASES OF ABSCESS OF THE APPENDIX.

R. M. Harbin, M. D., states in *Medical Record*, Jan. 9, that statistics of recoveries from drainage of cases of diffuse peritonitis are of no value unless the date of the perforation is known. In the absence of proper facilities, it is better to adopt the Ochsner procedure and the Fowler position, pending consultation. The doubtful propriety of waiting for the walling off process, may merge a certain number of cases into a diffuse form of peritonitis. Deferred operations, under favorable conditions, give the patient time to undergo a sort of autoinoculation with bacterial vaccines. The uncertain course of peritonitis argues for immediate operation. Infections low in the right iliac fossa can be safely trusted to nature. Short incisions and few manipulations should be the rule. As a rule it is unsurgical to leave the same gauze in the wound over four or five days. The right lateral and ventral positions are of great value in supplementing other methods of drainage. Drainage in diffuse peritonitis should not only give exit to pus, but should provoke a reverse current of serum out the wound. Intermittent injection of normal salt solution seemed to gain a greater amount of absorption in the rectum than the instillation method.

CEREBRAL HEMORRHAGE.

W. G. Spiller, Philadelphia (*Journal A. M. A.*, December 19), does not find, in his experience, the diagnosis of cerebral hemorrhage justified in cases of death occurring within five or ten minutes after the beginning of the attack. He gives the details of thirteen cases, with autopsies, in which life was prolonged for hours after the onset of the apoplectic attack, even when the hemorrhage was extensive, had broken into the ventricles and filled them all, even the fourth. As a rule extensive hemorrhage into the lateral ventricles is followed by a more rapid death than when the ventricles escape, but a moderate hemorrhagic exudate into the ventricles is not necessarily rapidly fatal. Even a large part of one cerebral hemisphere may be destroyed and the patient live for a considerable period, as was shown in one of his cases in which the hemorrhage destroyed the lenticular nucleus, a large part of the posterior limb of the internal capsule, and extended to the island of Reil, and yet the patient lived nearly two months.

OSMIC ACID INJECTIONS FOR THE RELIEF OF TRIFACIAL NEURALGIA.

H. H. Germain, M. D. (*Boston Medical and Surgical Journal*, Feb. 4, 1909), concludes from his personal experience as follows: 1. That osmic acid injections will relieve trifacial neuralgia for a longer or shorter period of time. 2. That relief from pain is not immediate but follows in a few days after injection. 3. That it may be followed by a certain amount of necrosis of tissue at the point of injection. 4. That it is little if any better than other peripheral operations. 5. It is best used in a 2% solution injected directly into the nerve, using a glass syringe and a platinum needle. 6. It is to be used only in purely sensory nerves as its employment in mixed nerves is followed by motor paralysis.

INTERNAL CONCEALED HEMORRHAGE.

James R. Torbert, M. D. (*Boston Medical and Surgical Journal*, February 4, 1909), says in conclusion: Internal concealed hemorrhage is a comparatively rare complication of pregnancy. Unless diagnosticated early it has a serious prognosis. It occurs generally in the last two months of pregnancy, although it may occur as early as the seventh month. The diagnosis is made by a careful examination of both the mother and the infant inside the uterus. The importance is urged of an examination of all obstetric cases in the last months of pregnancy and a close watch kept on both the maternal and foetal pulse during the progress of labor. Palpation is important in diagnosticating these cases, as the uterus is much increased in size and of a board like consistency. The appearance of acute anemia with manifestations of shock in a patient in the latter part of pregnancy should always suggest the possibility

of internal concealed hemorrhage. Early diagnosis is essential in offering a favorable prognosis to the mother; that of the infant is bad.

SOME ASPECTS OF CYSTITIS.

ARTHUR L. CHUTE, M. D., (*Boston Medical and Surgical Journal*, January 21, 1909), states that acute cystitis is most often, but not invariably, the result of an infection that is introduced through the urethra; it rarely needs any local treatment. In most cases, it clears up entirely; in some cases, however, either due to the depth to which the bladder has been involved, or to something which acts as a predisposing factor, the process becomes chronic. A chronic cystitis, beside following an acute attack, may begin as a process that is subacute or chronic from its inception. The determination of the predisposing cause, where there is a definite one, is a most important point in the consideration of cases of chronic cystitis. It will often tell us the prognosis as well as the line of treatment that should be followed. In a considerable proportion of cases the removal of this predisposing cause is enough to bring about recovery; in other cases the cystitis itself will require treatment. Tuberculous cystitis, in Chute's experience is always a secondary disease. The removal of the predisposing cause, which in most cases is a unilateral kidney tuberculosis, usually brings recovery.

MERCURY IN TUBERCULOSIS.

B. L. WRIGHT, Las Animas, Colo. (*Journal A. M. A.*, November 28), remarks on the resemblance between tuberculosis and syphilis in their pathologic histology, and suggests that the authentic cases of syphilis in which Lustgarten and others found his bacillus were complicated with tuberculosis and that the germs found were really tubercle bacilli. That these organisms disappeared under mercury was at that time a strong argument that they were the bacilli of syphilis. Now that we know the real organism of syphilis, it would seem probable that the disappearance of the Lustgarten bacillus under mercury occurred because this drug had an antituberculous as well as antisyphilitic action. Wright's attention was first drawn to the action of mercury in tuberculosis while on duty in the U. S. Naval Hospital, Pensacola, in the spring of 1905. Mercury was employed in several cases with a mixed tuberculous and specific infection with remarkable results, the tubercle bacilli disappearing and the lungs showing marked improvement on physical examination. This suggested an antituberculous action of mercury which seemed to him on reflection to be reasonable, and since assignment to the hospital at New Fort Lyon, Colo., he has resumed the experiment of this medication, now giving mercury by deep muscular injections to avoid the gastrointestinal symptoms which were an annoyance when it was exhibited by the mouth. Since its use the death rate has been reduced from 11.29 per cent. in the first quarter of 1908 to 4.76 per cent. in the second quarter, and 0.95 per cent. in the third quarter of the year ending September 30. Considering the fact that 60 per cent. of the patients were advanced cases, this result seems the more remarkable. Of the total number of patients under treatment 85.5 per cent. have been improved and there have been two cases counted as cures. Two officers, not included in the above, have recovered so far as to return to duty and are holding their improvement. Of the remaining 13.5 per cent., 2 patients have held their own, 6 have failed and one has died. The contrast between the patients who refused the mercury treatment and those who received it, all under the same conditions otherwise, was very marked, only 33 per cent. of those refusing having improved and this chiefly in the general condition rather than in the pulmonary lesions. Wright believes that mercury acts as a tonic and as a bactericide in the blood. His method is to give an injection of ⅓ grain of hydrargyrum succinimidum every other day until thirty injections have been given. Then the patient is placed for two weeks on iodid of potash, followed by a week without medication. Then the mercury is resumed with slightly reduced doses for another thirty days, and so on. The drug should never be pushed to the point of salivation and the doses given above are not absolute, but must be determined by close observation of each individual patient.

THE SYMPTOMATOLOGY OF ANTERIOR POLIOMYELITIS.

JAMES H. M'KEE, M. D. (*International Clinics*, vol. iv, eighteenth series), concludes as follows: When, during the warm months of the year, a baby or young child is seized with moderate fever, vomiting, constipation or diarrhoea, pains in the back and extremities, some stiffness of the spine, sweating and possibly some cerebral symptoms, the attending physician should give anterior poliomyelitis a prominent position in the list of diagnostic possibilities. Given such a history, and observing at a later date a flaccid paralysis, affecting usually the parts mentioned, accompanied by muscular and possibly by bony atrophies, absence of deep reflexes, failure of response to faradic currents, coolness and cyanosis of the overlying skin, etc., there is little difficulty in diagnosticating spinal paralysis of this nature. There remains something to be learned concerning the early symptomatology of anterior poliomyelitis, and this additional knowledge must necessarily be procured by the men who see the patients during these early days of the disease.

TOXIC EFFECTS OF BISMUTH SUBNITRATE.

EMIL G. BECK, M. D., (*New York Medical Journal*, January 2), closes his discussion of this subject as follows: Bismuth subnitrate administered by stomach, in small doses, is harmless. In the presence of certain bacteria in the feces of children bismuth subnitrate will liberate nitrites, which will be absorbed by the intestines and eliminated by the kidneys, and if the production is faster than the elimination, methaemoglobinaemia will result. In large doses by the mouth it is liable to produce an acute nitrite poisoning, characterized by cyanosis, collapse, methaemoglobinaemia, and may terminate fatally. Rectal injection of small doses of bismuth subnitrate may cause nitrite poisoning much quicker and more severe than when administered by mouth. Children are more susceptible to nitrite poisoning due to administration of bismuth subnitrate. Persons suffering with intestinal putrefaction are very susceptible to nitrite poisoning when bismuth subnitrate is injected into the bowels. The bismuth injected into these sinuses, and encapsulated, will be gradually absorbed, and may be found in the liver, spleen, muscles, and intestines. Characteristic symptoms of black borders of gums, ulcerations of mucous membranes, diarrhoea, desquamative nephritis may appear several weeks after the injection of the paste. After the injection of large quantities of the bismuth paste into suppurating sinuses, mild symptoms of nitrite intoxication may appear. The acute nitrite poisoning is to be regarded as a distinctly separate affection from the more chronic bismuth absorption. Radiographers should employ some other form of bismuth than the nitrate and refrain from injections of subnitrate into the bowels, especially if intestinal putrefaction is present.

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THE MEDICAL PROFESSION should be a learned profession. Cornell University will hereafter receive no students at its Medical College who do not possess the A. B. degree. That rule already holds in Johns Hopkins and Harvard Universities. Medicine, law and theology should be treated as post-graduate studies that require the basis of wide education and trained minds.—*The Independent.*

CHLORAL, MORPHIA AND THE POPPY must look to their laurels as aids to "nature's sweet restorer," for a recent invention promises to banish insomnia. This invention is a musical bed. The sleepless and tired man goes to bed, and with his foot releases a spring which sets a musical box in motion. The apparatus begins to grind out lullabies and melodies, and in a short time the patient is snoring peacefully.—*Kansas City Journal.*

MANY PHYSICIANS learn medical proprieties only by experience. These virtues are born or bred in some. To others they come slowly, if at all. They reduce the number of office signs. They reduce the size of letters on signs, door plates, letter heads, etc. Medical propriety will not permit the affix or prefix, M. D., or Dr. inscribed on hotel registers, or attached to private or other unofficial manuscripts.—*Ohio State Med. Journal.*

AN OCEAN SANATORIUM FOR CONSUMPTIVES. the *British Medical Journal* states, is being proposed. There is to be a sailing ship of 2,000 tons, for not more than fifty patients, each to be provided with a separate large and well-ventilated cabin. The deck would be used for the "veranda treatment." The intention is that the ship should cruise in the neighborhood of the Canaries, where it would have the advantage of the trade winds and of a very equable climate, while a port would not be far distant in the event of bad weather. The ship would carry an adequate medical staff. The working of such a scheme, observes our contemporary, would be watched with sympathetic interest by the medical profession; "probably there would be no lack of patients if the terms were not prohibitive." Whilst there are cases to the contrary, the majority of coughs do badly in sea air; and when one adds to the dreadful disease tuberculosis the still worse disease seasickness, the "sympathetic interest" we would feel would be most intense in behalf of all such double sufferers.—*Med. Times.*

DEATH FROM ANTITOXIN. The recent death, in Eugene, Ore., of a young man, immediately following an injection of diphtheria antitoxin for asthma, again emphasizes that this universal remedy is not without danger. The coroner's jury gave a verdict of criminal carelessness against the physician which at once brought out letters and statements from many physicians that he had followed a well established therapeutic procedure and, so far as he was concerned, was guiltless of blame.

THE BRITISH COLUMBIA TUBERCULOSIS SANATORIUM. A contract has been awarded for the construction of a new building at the sanatorium, at Tranquille, to cost $65,000. The plumbing, heating and furnishings will increase this cost to $100,000. The provincial government has an-

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nounced its intention of an additional donation of $20,000, providing a separate building is erected for the care of advanced cases of tuberculosis. In due time this addition will be constructed. The citizens of British Columbia certainly have far surpassed the people of our states of the Northwest in their provisions for the treatment of this class of patients.

THE *Industrial Review,* a semi-monthly publication devoted to insurance, has devised a scheme for compiling a list of cheap insurance examiners. Physicians are invited to send a $2.00 subscription to the *Review* and to sign a contract which agrees, among other things, that for the subscription to the journal and the subscriber's name inserted in a list of insurance examiners, each doctor shall agree to accept $2.00 for single insurance examination, $3.00 for the adjustment of a claim, and $1.00 for each additional examination of the same individual, with 25 cents a mile additional if required to go beyond the city limits, or more than three miles from his office. The *Industrial Review* proposes to put this list of cheap insurance examiners in the hands of various insurance companies, and

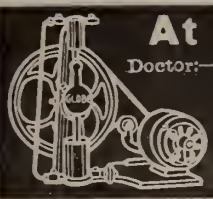
believes that this "Bureau of Physicians will fill a long-felt want with the insurance companies, and will undoubtedly bring a large volume of business to the physician who is fortunate enough to secure appointment."

Treatment of Coryza.—In the experience of F. P. Atkinson, in the *British Medical Journal*, the quickest relief in case of a common cold is obtained by giving 30 minims of sweet spirits of niter and the same quantity of aromatic spirits of ammonia in 1 ounce of water, repeating the dose in two and then every four hours. Three or four doses are generally sufficient to put a stop to the discharge. Should the discharge happen to be thick when first seen, then a snuff composed of 1 gr. cocaine, 2 gr. of menthol and 100 gr. of boric acid quickly effects a rapid cure. When the cold has run down into the trachea, as shown by a tickling of the throat whenever a long breath is taken, then a mixture of liquid ammon. acet., dr. 2, sp. ether, nit. min. 10 in 1 oz. of water, every four hours, rapidly gives the required relief.—*Charlotte Med. Journal.*

The Robert Koch Institute, which is soon to be opened in Berlin, more than any similar institution, will be apt to furnish rules for the proper administration and dissemination of the various tuberculin preparations. Americans may justly feel proud that the larger part of the contribution to the fund came from this side of the ocean, Carnegie, the Steel King, alone subscribing half the amount needed. Next to him came the German Emperor. It is a source of great enjoyment for anyone, who has a warm and cosmopolitan interest in scientific progress, to see two ingenious monarchs, of such different nature, coöperate in so harmonious a manner when a common enemy is to be attacked. What the most refined diplomacy is often unable to achieve, true philanthropy associated with common sense is sure to accomplish. This is a better and nobler act than the creation of an international peace-areopagus.—*Post Graduate.*

Tuberculous Pleurisy is a vital subject, considering how frequently pleural lesions either precede or accompany pulmonary tuberculosis. Martin, in the *London Medical Lancet*, finds the course of primary tuberculous pleurisy to be very varied; an accurate prognosis in the acute stage of the disease is impossible. In diagnosis must be considered: The mode of onset. The course of the disease, including an examination of the pleural fluid obtained by puncture. The pyrexia in tuberculous cases is frequently much more prolonged, even in the absence of empyema; this symptom in the absence of suppuration or other complication is a strong evidence of tuberculosis. The pleural effusion tends to reaccumulate, requiring paracentesis several times for the patient's relief; it sometimes coagulates spontaneously, unless the disease has become chronic. The result of guinea pig inoculation is often positive. Occasionally the development of peritonitis evidences the tuberculous nature of the case. With regard to the after effects of the disease on the chest wall and lung, there is often such an association. In many cases there remain a greatly thickened pleura. The chief physical signs are well marked retraction of the sides, chiefly the base, and deficient expansion. After a time dilated bronchi may be manifested, even with every other evidence of physical well being. The main factor in treatment is to remove the fluid from the chest. Cases running a prolonged course are best treated by lying in the open air, properly wrapped up; there should be generous feeding. By these means a perhaps fatal tuberculosis may be avoided.—*Charlotte Med. Journal.*

It is a Blessing that there are always men among us, who have enough love for carcinomatous patients as well as for science, to inaugurate new therapeutic methods. No doubt, the Roentgen method as well as its combination with preliminary operative measures, so far has given the best results. The records of the Post-Graduate Hospital show a number of cures in some desperate cases. Fulguration, the new method of Dr. Keating-Hart, which is done after the principle of the high frequency current, is reported to be still more successful. Surely, the powerful sparks destroy the carcinoma-cells, but they also demolish the normal interstitial tissue. Still, Czerny has applied the fulguration treatment 120 times on 59 patients so far, and his results are admirable. It is to be expected that the delicate technics as well as the complicated armamentarium is still more perfected under the hands of the untiring Heidelberg master.—*The Post Graduate.*



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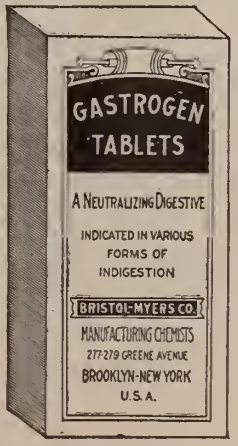
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THE OPSONIC CONTENT OF THE BLOOD OF INFANTS.—Amberg (*Journal of American Medical Association,* January 26, 1907) has tested the opsonic content of the blood in infants, breast-fed and otherwise, and in different conditions of health and nutrition. His results do not altogether support Moro's finding that the blood of breast-fed infants always exceeds in bactericidal power that of other infants; while the kind of food may exert an influence other factors must enter into consideration. One of these appears to be the state of nutrition, but there are indications that there are still other factors that come into play in certain cases. While he admits the insufficiency of the data, he offers tentatively the following conclusions: (1) The opsonic content of the infants' blood does not seem to follow the rules laid down by Moro for the bactericidal power of the blood. (2) The average values for the opsonic content of infants' blood exceed those laid down by Simon for normal adults. (3) A distinct advantage seems to exist in favor of the breast-fed infant. This advantage does not seem to be dependent so much on the breast-feeding as such, as to some extent on the state of the nutrition of the infant and, perhaps, on the constitution.—*Boston Medical and Surgical Journal.*

THE DOCTOR AND THE DEADBEAT.—The average physician is notoriously a victim of the chronic deadbeat. Men who will without hesitation fritter away money on needless luxuries evince a stubborn indisposition to pay the bills of the physician who may have saved their own lives or those of the members of their family.

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As for charity work pure and simple, the average physician could make disclosures that would open the eyes of the men and women who plume themselves upon achievements in this direction. —*Atlanta Constitution.*

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ORIGINAL ARTICLES.

THE ANATOMICAL BASIS FOR SUCCESSFUL REPAIR OF THE FEMALE PELVIC OUTLET.*

BY

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(With Illustrations.)

The female pelvic outlet is subject to severe traumatism at every parturition.

Such traumatism may produce no more lasting effect than a ruptured fourchette or it may result in a tear so extensive as to sever all the tissues between the vagina and the rectum.

For years surgeons have been operating upon these lesions with varying success.

Any plastic operation to be successful must have a solid anatomical basis. Note, for instance, the great variety of operations proposed and practised upon the inguinal region for hernia and their indifferent success or complete failure until the procedure of Bassini was given publicity when a great gain in cures followed. Why? Because Bassini's operation has a solid anatomical basis for its execution.

It seems to me that the one *fundamental idea,* the only *rational aim* for the surgeon in all such plastic work is to *restore* the *damaged parts* to *their normal state;* in other words, to follow Nature's plan in the reformation of the region under his consideration.

My purpose here is to demonstrate by actual specimens the structures which close the pelvic outlet in the female, to explain their action, to show what may occur if these structures are ruptured and to point out what seems to me, at least, the rational method for restoring these parts to a normal condition after such rupture.

*Read by invitation before the Vermont State Medical Society, Oct. 22, 1908. Published by permission in the *American Journal of Obstetrics*, December, 1908.

I wish to state at the outset that I bring you nothing original. The anatomy of the part is the same as it has doubtless been for ages. The location and extent of the various lesions have been fully described by preceding writers. But the significance of such lesions is not universally recognized and their treatment varies almost with each individual operator.

In fact, the treatment of pelvic lacerations is in sufficient chaos to justify a reasonably careful review of the salient features of the subject.

I. THE ANATOMY OF THE FEMALE PELVIC OUTLET.

In this consideration I aim to point out only those facts which are pertinent to the practical aspect of the subject.

The Pelvis.—The ossa innominata and the sacrum (with the coccyx) form the bony framework of the pelvic outlet.

It is an irregular-shaped segment of a cone, to the upper border of which is attached the spine and the abdominal walls; to its lower and outer surface, the lower extremities, and about its inside, the structures which close the pelvic outlet.

The Pelvic Muscles and Faciae.—The inner surface of the pelvis is padded by the obturator internus and the pyriformis muscles. Over these muscles is spread the pelvic fascia, which forms a funnel-shaped membrane attached to bone and ligament about the margin of the muscles. Above, to the promontory of the sacrum, the iliopectineal line and the inner surface of the pubis. Below, to the ischiopubic rami, the tuberosity of the ischium and the great sacrosciatic ligament. The pelvic fascia is crossed from the inner surface of the pubis to the spine of the ischium by the "white line," which serves to mark the separation between the pelvic cavity above and the ischiorectal fossa below. The pelvic fascia above this line is the *parietal pelvic fascia* and that below is the *visceral pelvic fascia.* The latter drops downward and inward to the bladder, vagina and rectum, forming for these viscera their true ligaments. The portion of the fascia over the obturator muscle is also called the obturator fascia, and that covering the pyriformis muscle, the pyriformis fascia.

The above statements agree with those given in the text-books of anatomy. Close dissection shows, however, that they should be modified in some particulars, for the following arrangement prevails in many of the female pelves.

If the anal fascia has been removed and the lower surface of the levator ani exposed, by gently using the fingers or the handle of a scalpel, it will be found that the levator ani and the parietal pelvic fascia are easily separated as one layer from a more external layer of fascia, which is the "true" obturator fascia. This layer covers the obturator muscle and is attached to bone and ligament all about its margin, viz., along the iliopectineal line, to the upper margin of the obturator groove and to the inner surface of the pubis; below, to the spine of the ischium, to the great sacrosciatic ligament, tuberosity of the ischium and the ischiopubic ramus.

The inner layer is the parietal pelvic fascia, which for its upper attachment follows the same lines as the true obturator fascia does, but, after the limits of the obturator muscle are passed, extends over the pyriformis muscle as the pyriformis fascia, and is in this region attached to the posterior portion of the iliopectineal line, the front of the sacrum, the great sacrosciatic ligament and the spine of the ischium. This fascial plane drops downward and is called the parietal pelvic fascia until a point is reached where it is thickened by the addition of some fibers running anteroposteriorly from the inner surface of the pubis to the spine of the ischium, the so-called "white line"; below this line the fascia is called the visceral pelvic fascia, and it is disposed as previously given. There is thus formed a *continuous* plane or layer of fascia, the upper part of which is usually described as the parietal pelvic fascia and the lower portion as the visceral pelvic fascia, but the two portions are really continuous with each other without any mark of separation except for the thickening at the "white line," *but they are separated* from the true obturator fascia. The origin, then, as usually given for the parietal pelvic fascia is really the origin for the visceral layer of the same as well.

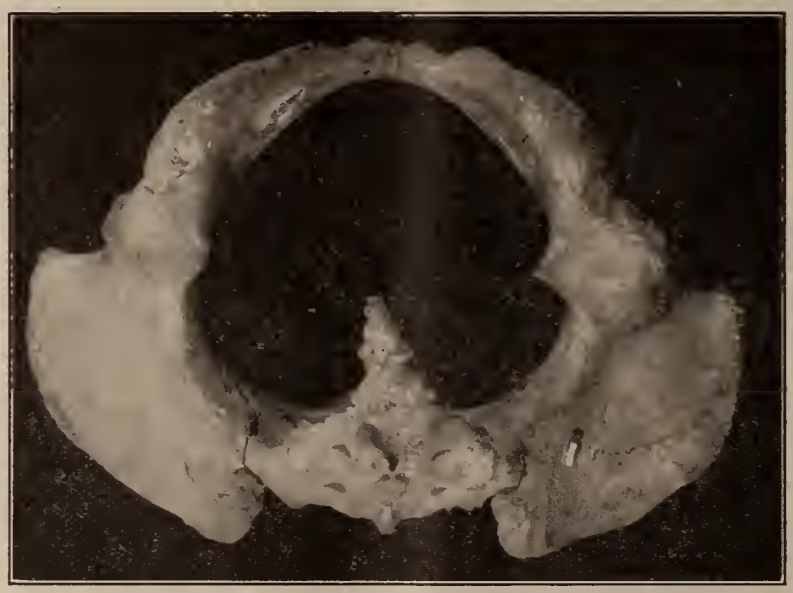


Fig. 1.—The outlet of a female pelvis.

The Levator Ani (and Coccygeus).—The levator ani shows two distinct portions, the ilio-coccygeus and the pubo-coccygeus (pubo-rectalis).

The ilio-coccygeus is the portion arising from the "white line." It is inserted into the side of the rectum, the ano-coccygeal raphe or ligament and the coccyx.

The pubo-coccygeus (pubo-rectalis) arises from the inner surface of the pubis, passes backward alongside of the vagina to be inserted into the tendinous center of the perineum; and,

sweeping around the rectum, it terminates in the ano-coccygeal ligament and coccyx. This portion of the muscle deserves further notice. Its fibers form a strong band (about three-eighths of an inch wide) which hugs the vaginal orifice very closely (forming the lateral compressor of the vagina), and is inserted in a "Y-shaped" manner. One leg of the "Y" terminates in the central tendon of the perineum, the other leg of the "Y" encircles the rectum and ends in the ano-coccygeal ligament.

The coccygeus muscle is relatively unimportant in this consideration. It arises from the spine of the ischium and the adjacent obturator fascia and lesser sacrosciatic ligament, it is inserted into the side of the coccyx and the lower end of the sacrum. The above statements are in conformity with the text-books. We find, however, they should be somewhat changed to agree with our dissections of the female subject.

The fascia of the pelvis being arranged in two layers as just given, the "true" obturator fascia and the parietal pelvic fascia, the origin of the levator ani muscle should be given in conformity with the dissections, namely, its *origin* is from the *outer surface* of the *parietal pelvic fascia above* the "white line." Some fibers of the anterior portion of the muscle even extend to the margin of the obturator groove and the iliopectineal line. This distinction is possibly with-



FIG. 2.—The left half of a female pelvis to show the line of attachment of the pelvic fascia, triangular ligament and the points between which the "white line" extends.

out importance, except that it conforms to the usual findings at dissection. The result of this arrangement, then, is to make the *parietal pelvic fascia* really the *tendon* of *origin* for the levator ani muscle. So far as I can determine, the "white line" is *not* usually the *point* of *origin* for the *levator ani, neither* is it the place "along which the pelvic parietal fascia splits into the visceral pelvic fascia and the obturator fascia, neither does it give origin to the anal fascia" (see later). The "white line" is merely a thickening of the pelvic fascia along a narrow tract from the inner surface of the pubis to the spine of the ischium for the purpose of reinforcing the fascia at this place and unquestionably taking up much of the strain of the pelvic load and swinging it between the two bony points just named.



HAYNES. FIG. 3.—A side view of the right half of a female pelvis placed in the normal position with reference to the horizontal plane. A. The line of attachment of the parietal pelvic fascia. The segment from A. to B. also indicates the attachment of the true obturator fascia; B. the inner surface of the pubes, the beginning of the "white line," the origin of the pubo-coccygeal (pubo-rectal) portion of the levator ani muscle; C. the spine of the ischium and the posterior point of attachment of the "white line"; D. is placed between the attachments of the two layers of the triangular ligament (perineal shelf.) It also indicates the lower line of attachment of the true obturator fascia. The angles that the various "lines" make with the horizon are indicated. Note that the perineal shelf is practically horizontal.

The Anal Fascia.—The anal fascia is usually described as a thin layer covering the lower surface of the levator ani muscle and arising from the obturator fascia immediately beneath the "white line." As a matter of fact, this fascia is usually a well-marked one, or if thin in places has several dense portions in it, and, while it arises from the "true" obturator fascia (and not from the parietal pelvic fascia), this origin may be half an inch or more (sometimes almost as low as Alcock's canal for the internal pubic vessels) below the level of the "white line." With a low origin the anal fascia may blend laterally (as well as mesially) with the deep layer of the triangular ligament. If it has a higher origin, there is left a triangular osteofibrous space between the anal fascia, deep layer of the triangular ligament and the ramus of the pubes and ischium which is filled with fat. There is always a considerable quantity of fat interposed between the levator muscle and the anal fascia along their outer portions, but mesially the two structures become intimately blended about the perineal center and the rectum. *These three structures,* the visceral pelvic fascia, the levator ani muscle and the anal fascia, *form* the *pelvic diaphragm.* Whatever concerns one affects all three. While they may be separately dissected and demonstrated along their lines of origin, at their insertion they become so intimately interwoven with each other that it is no longer possible to demonstrate them as separate layers without severing their interlocking fibers, and forming artificial planes of cleavage. This intermingling of fibers forms posteriorly the strong ano-coccygeal raphe, or ligament, centrally they assist in building up a dense fibromuscular mass between the rectum and the vagina, the "perineal body," and passing into the rectum and vagina they strengthen and thicken their walls (the rectum more than the vagina).



Fig. 4.—Dissection of the female pelvic outlet. Note the prominent pubo-coccygeal hammock formed by the sphincter ani externus and the sphincter vaginæ. Laterally is seen the levator ani muscle. Anteriorly is the perineal shelf, with the fibers of the transversus perinei muscle. The intimate intermingling of the sphincter ani externus and the sphincter vaginæ at the perineal center is well shown, indicating that these two muscles really constitute a strong muscular sling between the pubic arch and the coccyx.

The Perineal Shelf.—This partial partition at the front of the pelvic outlet is formed by the two layers of the triangular ligament between which is inclosed the compressor urethræ (or vaginæ) muscle. These structures are attached laterally to the ischiopubic rami and the ischial tuberosities. Mesially the superior or deep layer of the triangular ligament blends with the visceral pelvic fascia, the anal fascia and with the other fibromuscular elements of the perineal center. The compressor urethræ (vaginæ) muscle with the fibers of the deep transversus perinei forms

a muscular layer extending transversely across the subpubic space from one ischiopubic ramus to the other. These fibers pass behind (deep transversus perinei), and in front of the vagina (compressor vaginæ), and the anterior fibers surround the urethra (compressor urethræ). The inferior or superficial layer of the triangular ligament is similar to the deep one in its bony attachments. Posteriorly, it blends with the deep layer, with Colle's fascia and with the central tendon of the perineum. These layers of the triangular ligament with the intervening muscle close up the anterior or perineal portion of the pelvic outlet, forming a strong but dilatable plane horizontally disposed, which I should like to speak of as the perineal shelf, in order to drop



FIG. 5.—Saggital section of a female pelvis. A nullipara, eighteen years of age, injected and hardened in formaline, then frozen and cut in the frozen state. The bladder was well filled when the section was made and has since partially collapsed. The uterus was crowded backward by the bladder until its long axis was vertical.

Note the almost vertical course of the vagina; the almost horizontal course of the anal canal, and the right-angle formed between it and the rectum. The shape and relations of the ano-coccygeal and perineal bodies can be easily appreciated.

lengthy descriptive terms and at the same time convey some idea of its function. The perineal shelf is pierced by the vagina and the urethra and some minor structures which do not require mention.

are very closely related anatomically and functionally.

The pubo-coccygeal hammock is formed by the sphincter ani externus and the sphincter vaginæ which, stretching from the pubis to the coccyx,



FIG. 6.—Saggital section of the pelvis of a female subject, a nullipara, about seventy years of age. Hardened in formaline, frozen and cut in the frozen state. Small squares of paper were pinned over the subpubic arch and the tip of the coccyx, also a strip of paper was placed within the vagina to make its lumen more apparent, as the two walls were in such close contact they did not differentiate readily. Among other things, note the shape, position and relations of the bladder; the position and course of the urethra; the course and relations of the vagina; the horizontal course of the anal canal, and the less-than-a-right-angle formed between the anal canal and the rectum; the size and shape of the ano-coccygeal and perineal bodies; and the very much atrophied uterus, in a normal anteflexed and anteverted position.

The Pubo-coccygeal Hammock.—By this term I wish to group together parts which are usually described and considered separately, but which form a veritable muscular hammock surrounding, closing and supporting the lower portions of the rectum (anus) and vagina. Separately

considered, these muscles are disposed as follows:

The sphincter vaginæ has its anterior attachment into the crura and base of the clitoris and into the subpubic ligament and the adjacent pubic arch; its posterior attachment is into the central perineal tendon. The sphincter ani arises from the tip and sides of the coccyx and the anococcygeal ligament, its anterior disposition is into the central perineal tendon also. The central attachment of these muscles deserves a more detailed statement. We find here the fibers of the two sphincters intimately blending with each other and, also, with the fibers of the two transversus perinei, forming an interlacement of muscular and tendinous fibers which, with those just mentioned from the levator muscle and its fasciæ and the structures of the triangular ligament produces a mass of muscular and fibrous tissue which is described as the "perineal body." It is placed between the anus and the vaginal orifice, where it measures one and five-eighths of an inch in an anteroposterior direction and extends upward for one inch between the anal canal and the vagina.

The anterior fibers of the sphincter ani spread out fan-shaped and terminate not only as given above, but also by being attached to the superficial layer of the triangular ligament. It requires no stretch of fact or fancy to conclude that this ligament answers as the tendon of insertion for a portion, at least, of this muscle.

The pubo-coccygeal hammock is anchored and supported laterally to a small extent by the comparatively weak superficial transversus perinei muscles. These pass between the central perineal tendon outward and backward to the ramus and tuberosity of the ischium.



FIG. 7.—Dissection of the female perineum. A. The pubis; B. the ischiopubic ramus; C. the ischial tuberosity; D. the great sacrosciatic ligament; E. the external urinary meatus; F. the orifice of the vagina; G. the tendinous center of the perineum; H. the anus; K. is placed on tne levator ani muscle and in the ischiorectal fossa; I. the perineal shelf. Upon it lie the superficial perineal vessels and nerves and the sphincter vaginæ muscle.

II. THE FUNCTION OF THE FOREGOING STRUCTURES.

The first statement I wish to emphasize is that while the various structures participating in the closure of the pelvic outlet have their own particular function, in their action, one cannot be considered alone and separate from the other elements. They all act in harmony and all to the same end, namely, for the preservation of the integrity of the pelvic outlet and in maintaining intraabdominal pressure, whether it be in micturition, defecation, copulation or parturi-

tion; or in resisting the increased action of the abdominal muscles and the diaphragm in various other bodily functions, as vomiting, coughing, sneezing and the like.

These features of the subject should be kept in mind:

1. The pelvic outlet is closed by a diphragm formed of three intimately related structures: the visceral pelvic fascia, the levator ani muscle and the anal fascia.

3. Lastly, there is the pubo-coccygeal hammock formed by the sphincter ani externus, sphincter vaginæ and the transversus perinei muscles.

These in whole or part are traversed by the urethra, vagina and anal canal and by other structures not pertinent to our consideration.

What is the mechanism by which they sustain the pelvic load? We may note that if the female went on all fours and did not assume the up-



FIG. 8.—Dissection of the levator ani muscle, especially the pubo-coccygeal (puborectal) portion with its "Y-shaped" insertion into the perineal center and the ano-coccygeal ligament. A. the symphysis pubis; B. the tuberosity of the ischium; C. opposite the vaginal orifice just above the metal hook; D. the tendinous center of the perineum; E. opposite the anus; F. opposite the coccyx; between F. and E. is the sphincter ani externus; between F. and B. is the great sacrosciatic ligament; in the center of the picture is the ilio-coccygeal.

2. The anterior portion of the outlet is further reinforced by the perineal shelf, composed of the two layers of the triangular ligament inclosing between them the compressor urethræ (vaginæ) muscle.

right position it would take very little muscular effort to block up the pelvic outlet and resist the intraabdominal pressure, and even if in childbirth a torn canal resulted there would not follow the dire results which now attend such lesions.

We must then examine the pelvis and its intrinsic parts in the normal *upright position.* This is obtained by holding the pelvis so that the anterior superior spines of the ilium and the symphysis pubis are in the same vertical plane. By careful examination of the living woman standing you will find that this position is correct. Studying the pelvis and its contents in this normal upright position, we are impressed with several important facts:

1. The "white line" forms an angle above the horizon of thirty-three degrees. This angle is open to the rear.

2. The iliococcygeal fibers of the levator ani pass only slightly backward, but *mostly downward* into the rectum, ano-coccygeal raphe and the coccyx.

That the pubo-coccygeal (pubo-rectal) portion of the muscle takes a course *almost horizontally backward* around the vagina to its insertion into the perineal center, rectum, ano-coccygeal raphe and coccyx.

The coccygeus muscle can be disregarded in this consideration, as it has no bearing upon the later aspects of the subject. It merely completes the pelvic diaphragm by closing up the gap left between the levator ani, great sacrosciatic ligament, the side of the coccyx and the end of the sacrum.

3. The perineal shelf forms an angle with the horizon of only 3 to 5 degrees. The angle is below the horizon and opens to the rear. The angle is so small that *practically* the *perineal shelf* is in a *horizontal plane.*

4. The course of the vagina from the uterus to the surface is either straight or very slightly curved, the concavity being directed forward or

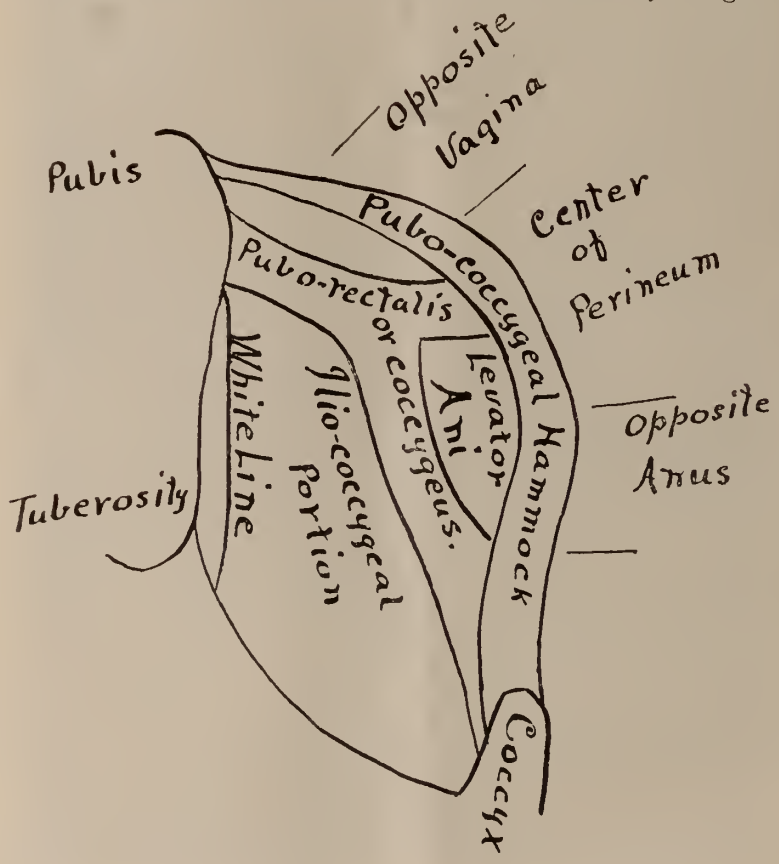


Fig. 9.—Diagram to explain Fig. 8.

the upper two-thirds maintains this forward curve and the lower third turns slightly backward.

The vagina lies close to the pubic arch, being distant from it (in formaline hardened specimens) seven-eighths of an inch (the urethra intervening). The posterior wall of the vagina is in close contact with the anterior.

5. While the vagina and the rectum are in close contact above the pelvic diaphragm, below this septum they rapidly diverge.

This separation is caused by the abrupt backward turn that the anal canal makes with the rectum. The angle between these two portions of the gut varies from a little less to a little more than 90 degrees. The distance of the apex of this recto-anal angle from the subpubic angle is one and one-fourth inches. The long axis of the anal canal is at an angle of 15 degrees or less with the horizon.

orifice at the hymen is one-fourth of an inch lower than the center of the anus.

What Prevents Prolapse of the Pelvic Viscera?—Examination of the specimens and investigation upon the living show conclusively that the *levator ani muscle* and especially its pubo-coccygeal (pubo-rectal) portion is the *important contractile element present.*

Examination of the living woman with intact



FIG. 10.—Female cadaver which showed a typical laceration of the pelvic outlet. A. B. Opposite the posterior pair of caruncles which are widely separated by the old laceration. This specimen shows the characteristics of a ruptured pelvic outlet. The gaping orifice, the visible cystocele, the shortened perineum, the tip of the rectocele and the relaxed anus are all apparent; C. opposite the clitoris; D. points to the external urinary meatus.

6. The space between the anal canal and the vagina is filled in by the perineal body, 1 inch in depth and 1⅝ inches measured along the perineal raphe.

7. The vaginal and anal orifices are inclosed within and supported by the fibers of the pubo-coccygeal hammock, and the center of the vaginal pelvic outlet shows the two (anterior and posterior) vaginal walls in close contact with each other; the anterior wall is so close to the subpubic arch that it really appears to lie immediately against it, except for the urethra intervening between the two along the center.

By pressing strongly backward, the vagina is

opened and the two band-like bundles of the pubic portion of the levator muscle will be felt on either side. If now the woman is asked to contract her muscles you will feel the finger drawn up to the pubic arch by the forcible contraction of these bundles as they draw the rectum (recto-anal angle) and perineum forward. By this mechanism the vagina is firmly closed. At the same time the rectum, at the recto-anal junction is primarily closed laterally by the contraction of these same bundles and drawn bodily forward toward the pubic arch. The lower portions of both canals are maintained in a closed state by the action of the two superficial sphincters.

While the levator ani is the efficient cause for the closure of the pelvic outlet, we must not lose sight of the fact that the upper and lower fascia of the muscle greatly assist in this function.

These layers bind the rather loose fibers firmly together, bridge over weak places in the muscle thus solidifying it and conserving the action of the entire muscle. The strong horizontal perineal shelf at the anterior portion of the outlet plays an active part through its insensitive nature in sustaining the pelvic load without fatigue, and the active muscular arrangement forming the pubo-coccygeal hammock must contribute not a little in assisting the pelvic diaphragm in its function.



FIG. 11.—Showing the flap-splitting process by which the vaginal and rectal walls are separated and the pubo-coccygeal portions of the levator ani muscle exposed.

III. LACERATIONS OF THE PELVIC OUTLET.

How Produced.—The lesions considered in this paper are produced at childbirth by the passage of the child through the parturient canal, either unassisted or aided by the use of the forceps.

At birth, then, the child must pass through the pubo-coccygeal (pubo-rectal) loop of the levator muscle, through the gap in the perineal shelf, and through the vaginal slit in the pubo-coccygeal hammock.

This passage is usually made without any material damage when the normal conditions affect-

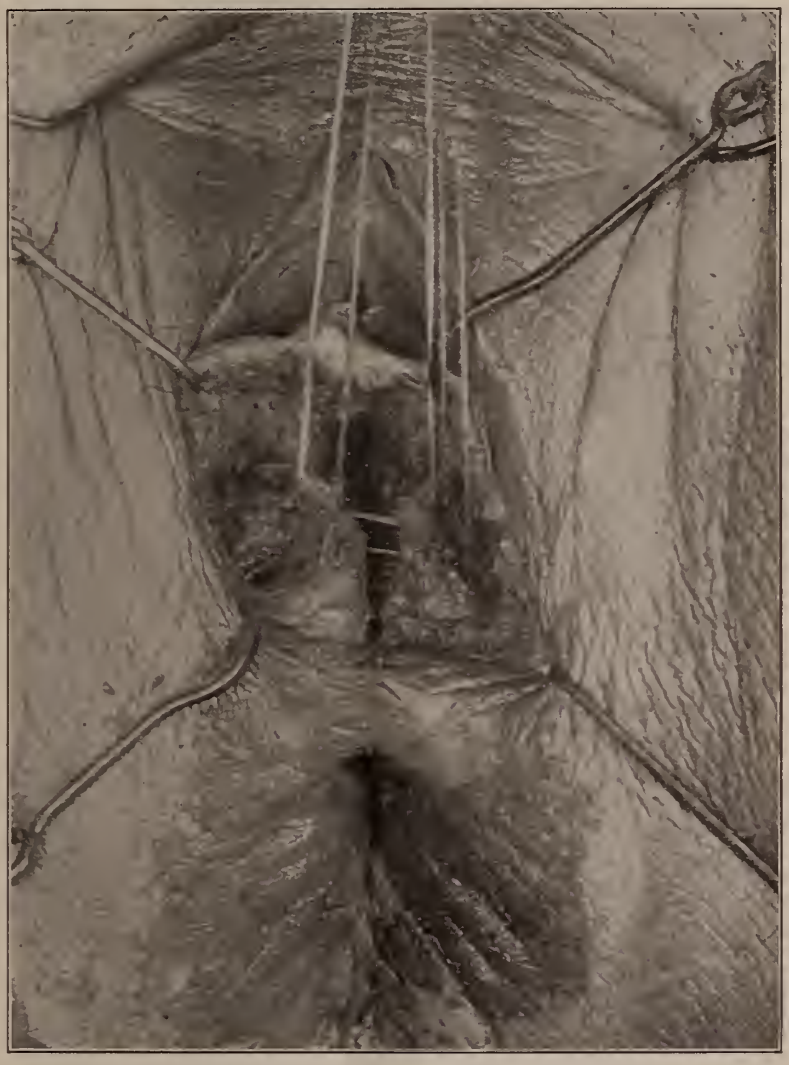


FIG. 12.—Sutures introduced into the pubo-coccygeal portion of the levator ani.

Probably the premature application of the forceps or their faulty adjustment or ignorant use contribute to the production of tears of the pelvic outlet. Indeed, it is probable that the rarer form of rupture of the levator ani muscle close to the pubic arch is due solely to the cutting action of the blade of the badly applied or used forceps.

ing mother, child and time prevail by the gradual stretching of the structures composing the different layers. However, there may be such a disparity between the size of the child and the potential passageway or the birth so precipitate that all the structures are torn through into the rectum or into the ischio-rectal fossa. Between

these two extremes there are all grades of lacerations.

Extent and Location of the Lacerations.—Lacerations of the more superficial structures, *i. e.,* the perineum itself, independent of the pelvic diaphragm, may occur. When these are shallow they produce no symptoms and need not detain us. If of a more severe character—into the anus, for instance—they may be dealt with by the operative procedure given in the following pages.

The serious lesions are tears in the pelvic diaphragm, alone or associated with those of the perineum.

These lesions are situated opposite the posterolateral angles of the vagina and are usually bilateral, but the left side usually suffers more than the right. When they are limited to one side only, it is the left which is usually affected.

These lacerations extend for varying distances into the ischiorectal fossæ, severing the pubo-coccygeal (pubo-rectal) bundles of the levator muscle, the transversus perinei deep and superficial, the triangular ligament and the common attachment of the sphincter ani and sphincter vaginæ.

If the rupture is in the median line the parts are severed toward, up to and even into the anal



Fig. 13.—The sutures into the pubic portion of the levator ani have been tied. This re-establishes the insertion of the pubo-coccygeus (pubo-rectalis) into the perineal center, and at the same time obliterates the rectocele.

canal (possibly into the rectum). If the rarer form of laceration is present, the pubic portion of the levator muscle is torn off close to its origin from the pubic arch. Cervical lacerations, rupture of vessels and damage to the urethra, bladder or other parts are not considered in this connection.

by very serious results as the action of the most important portion of the muscle is lost. The rectum is not drawn firmly against the vagina and both against the subpubic arch. There is, therefore, no support to the anterior wall of the rectum, neither is there any posterior support for the vagina. This loss of sustaining force is felt



FIG. 14. The sutures which bring together the ruptured "perineal body" have been placed and tied. The manner in which this builds up the perineum can be easily demonstrated by consulting the preceding photographs. By these sutures the insertion of all the superficial muscles into the perineal center is re-established and the "perineal body" restored to its normal condition.

IV. EFFECTS OF PELVIC LACERATIONS.

Superficial median tears produce no symptoms and require no treatment. Lesions of the pubic portion of the levator ani muscle and fasciæ, unless repaired at their inception, will be followed by the rectum, vagina, bladder and other pelvic viscera. Beginning with the lowest structures and working upward, these viscera gradually fall out of the pelvic cavity through the gap left between the subpubic arch and the ilio-coccygeal

loop of the levator muscle. The extent of their fall is limited only by the length to which the ligaments, vessels and nerves which pass to them will stretch in the given period of time.



Fig. 15.—Suturing the flap formed of the posterior vaginal wall in a vertical direction. A small gap is left at the posterior end of the incision.

Note that the posterior pair of carunculæ, which are shown in Fig. No. 10 have been brought in contact with each other, thus restoring the outlet to its normal condition. In the living this line of suture should be made with No. 2 ten-day chromic gut and placed in a neater manner than shown here.

This fall is aided by the intraabdominal pressure from above. There is thus produced the ordinary rectocele, cystocele and pouting vagina. Later the uterus and its adnexa and the remaining contents of the pelvic cavity participate in the downward movement.

In speaking of the supporting function of the pelvic floor I have used the term of the "pelvic load" because the weight to be borne is not merely rectum and vagina alone, nor bladder and uterus, but it is in reality the entire column of visceral structures which reach from the pelvic floor to the diaphragm, plus the force exerted by the contracting muscles bounding the abdominal cavity in producing and maintaining the intraabdominal pressure. When the pelvic floor is incompetent to sustain this load there is a displacement of it downward, and the parts to show this displacement or prolapse first are those in closest proximity to the breach in the floor.

While Nature has arranged to support these organs by numerous ligaments and vessels with the enveloping connective tissue, and they fully perform this function while the pelvic floor is intact, and while they can support the load for a time even if the pelvic floor is damaged, yet after a variable time in this last condition, these ligaments gradually stretch, the viscera drop downward and a condition of prolapse of the organs becomes evident. The superimposed abdominal viscera also share in this downward movement.

Diagnosis of Pelvic Lacerations.—Inspection shows a pouting, swollen, open vaginal orifice, through which may be seen the tip of a rectocele and a cystocele. The anus is relaxed and prominent.

The interval between the vaginal and anal orifices may be greatly reduced and even destroyed.

A cicatrix fills the interval between the posterior extremities of the labia. The anterior limits of this cicatrix is usually indicated by the most posteror pair of caruncules. (These caruncles also indicate the points between which the mucocutaneous incision extends.)



FIG. 16. Labia widely separated to show how the sutured posterior vaginal wall does not (even in the cadaver) obstruct the vaginal outlet. In the living this excess of tissue will gradually disappear. Note the depth of the perineal body. Compare with Fig. No. 10 to see how the perineum has been built up between the vagina and the anus.

Digital examination confirms the general thickening, swollen and lax state of the parts. The cervix will usually be encountered close to the vaginal orifice. Pressure backward encounters no resisting pubo-coccygeal bundles of the levator ani, and, upon voluntary effort by the patient, there is no muscular action of these fibers to compress the vagina, and to draw the rectum (recto-anal angle) forward toward the subpubic arch. There is only a weak lifting of the anal portion of the perineum, due to the action of the ilio-coccygeal portion of the muscle. A finger in the rectum finds the anterior wall of the recto-anal angle ballooned out and projecting downward and forward into the vagina as the rectocele. A sound in the bladder shows that there is a similar pouching downward and backward of its base so as to produce the cystocele.

The uterus and adnexa in the early stage of the process may show no disturbance in position, but later they all share in the downward movement, and this may go on until the uterus projects through the vaginal orifice, and the adnexa are prolapsed into the funnel-shaped pouch of Douglas. Between these extremes there are all degrees of displacement. Prolapse of the intestines will be sure to keep pace with the fall of the pelvic viscera, and all sorts of abdominal ptosis may be associated with a ruptured pelvic outlet.

Repair of Pelvic Lacerations.—This paper is confined to the treatment of pelvic lacerations, even though such lesions are followed by all the pathological conditions mentioned above, as cystocele, rectocele, uterine displacements and numerous other pelvic conditions. I do not intend to rehearse all the measures which should be instituted for the relief of such conditions as it would unduly lengthen this paper and confuse the real point I wish to emphasize, viz., the proper repair of the ruptured pelvic floor.

Besides the operation advocated for this lesion, the other pathological states demand surgical treatment, and, although these measures will not be outlined here, it is understood that they should be done.

The mechanical features of rectocele, cystocele, displacements of the uterus, tubes and ovaries; the functional ones of constipation, disturbed micturition, abnormal menstruation, congestion and inflammation of the pelvic viscera; and the mental ones of growing discomfort to actual distress in the pelvic region and reflected areas, bring the woman with a lacerated pelvic outlet to the operating table.

Until Emmet made the distinction clear between lacerations of the levator muscle and the "perineal body," the operations proposed for the relief and cure of these conditions had no anatomical or logical foundation. Emmet demonstrated that there could be an extensive tear of the "perineal body" without any other symptoms objective or subjective, and, that there were cases with intact perinei in which existed prolapse of all the pelvic organs.

The essential distinction is, as has been already pointed out that in the latter case the levator muscle has been torn while in the former it remains uninjured.

The lesion then is situated in the pubo-coccygeal (rectal) portion of the levator ani muscle. It is usually at the posterolateral angle of the vagina, and it may be unilateral but is usually bilateral. Median tears may also exist. The treatment of these conditions is the same. The problem is how to expose the parts and repair the damage.

There have been any number of operations proposed, but they all may be grouped under two classes, denudation and flap splitting. While I have performed both operations many times, the denudation method first and later the flap-splitting operation, I must say that to my mind, the latter plan is the only one which, when carried out to the extent here advocated, will fulfill all the indications demanded.

It is founded on true anatomical and surgical principles, and the results prove its correctness.

By the flap operation no tissue is lost, the exact site of the lesion is exposed, viz.: the levator ani and its enveloping fasciæ, the sphincter ani and the transversus perinei. The operation is easy of execution and rapidly performed. All sutures are buried and do not require removal.

The Operation.—The incision is made with scissors along the mucocutaneous border of the vaginal orifice, from the anterior margin of the cicatrix on one side to a similar point on the other side. This forms a "U-shaped" incision.

With scissors and fingers the vagina and the rectum are quickly separated from each other, from the perineum to the highest point of the rectocele, and laterally so far outward as to sever all the cicatricial bands and fully expose the margins of the levator ani muscle. Two or three chromic gut or kangaroo sutures are placed in the margins of the levator ani, taking care to

pass the needle outward, deeply enough to get a firm hold of the muscle and its fasciæ. The number of sutures depend upon the width of the gap to be corrected, and no fixed number can be given; place enough to obliterate the rectocele and properly close the gaping vagina.

Control hemorrhage, which will be quite free, but as it is mostly venous pressure hot sponges are usually sufficient, and tying the sutures in the muscle will arrest what remains. Next place one, two, or three sutures of the same material in the lateral surfaces of the wound superficial to the levator muscle. These sutures are placed deeply and they must necessarily without further dissection, gather up the sides of the severed perineal body and bring once more into a central insertion the sphincter ani externus, sphincter vaginæ and the transversus perinei muscles, and, furthermore, they will also reunite the deeper parts of the perineal shelf.

The operation is finished by suturing the "U-shaped" incision vertically with No. 1 or 2 ten-day chromic gut. There is a small gap purposely left at the posterior angle of the incision for drainage, as there will be some oozing for the first twenty-four hours. The redundant flap of vaginal tissues is tucked into the vagina and the operation completed.

This operation gives perfect and complete exposure of the damaged structures at the site of the lesion. The reformation of the central attachments of the various structures of the pelvic diaphragm, perineal shelf and pubo-coccygeal hammock cures the rectocele, restores the vital action of the pubo-coccygeal bundle, brings the posterior wall of the vagina forward against the anterior, narrows the vaginal canal to its proper size, reforms the pelvic floor, furnishes a firm support for the intraabdominal pressure and a solid basis for any further work upon displaced pelvic viscera.

If such a repaired outlet is carefully examined two or three months or years after the operation you will notice these points of improvement. The vaginal orifice is not gaping but closed. There is the normal space between the vaginal and anal orifices, and the perineum has its normal contour. A finger in the vagina shows its two walls in contact, and if the muscle is called into action the finger will be carried against the subpubic arch by the forward movement of the rectum (recto-anal angle). Furthermore, the perfection of the result is asserted by the patient and proved by subsequent childbirths.

1125 Madison Avenue.

AN INTERESTING CASE OF GONORRHEAL ARTHRITIS TREATED WITH SERUM.

BY

HARRY E. PLUMMER, M. D.,

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The publication by Rogers and Torrey of their researches concerning an Antigonococcic Serum, *Journal A. M. A.*, Jan. 27, '06 and Sept. 14, '07, which they believed would be found efficacious in the treatment of such a generally stubborn condition as gonorrheal arthritis and engendered the hope that this new serum would be a valuable weapon in the hands of practitioners who have use for it in such cases. The reports above referred to stated that among other conditions the serum was especially valuble in the treatment of complications due to the entrance of the gonococcus organism in the circulation either directly or through the lymphatics, such lesions including arthritis, iritis, endocarditis, pleuritis and meningitis. I desire to report the following interesting case of gonorrheal arthritis which has gone the rounds and had been treated for a long time by various methods without avail and which was notably improved after the exhibition of antigonococcic serum as a contribution to the literature on the subject.

Case History: A. D., clerk, age 28. Married. First and only attack of specific urethritis January, 1908, no complications such as epididymitis etc. Has been treated by his physician by urethral injections and internal medication. Was taken with pain and swelling in the left wrist within a month of the attack of urethritis. A few weeks later it appeared in the ankles and toes. The symptoms grew worse gradually and the patient began to give up hope of ever being cured. Had even considered suicide as only hope for relief.

Present symptoms (objective) Sept. 5th, '08, swelling and some redness of skin, extreme tenderness of middle joint of the little finger on right hand, second toe of the right foot, third toe of left foot.

Present symptoms (subjective) patient required cane to walk, pain so severe had to give up occupation, needed someone to assist him in dressing. Strictures at meatus and at penoscrotal junction, just allowing a 22 F. bougie. Prostate and vesicles negative. Shreds in both

specimens of urine. Irrigated ant. urethra and strippings from prostate showed gonococci.

Diagnosis: Gonorrheal arthritis, complicating chronic ant. and posterior urethritis.

Treatment: Has been given 16 injections (2 c.c. each) of antigonococcic serum, P. D. & Co., at intervals of seven days excepting the first six, which were given at intervals of three days. The dosage was 2 c.c. with one exception, when 4 c.c. were given. No other treatment was instituted until marked improvement was shown as a result of the serum therapy. In the latter part of October the use of sound was instituted. Prostatic massage and irrigations were also commenced.

Conclusions: I am satisfied that the wonderful improvement in this man's case was due entirely to the use of the serum. Only once or twice did he have a slight urticarial eruption as a result of the injections of the serum. On two different occasions within a few hours after the injections he claimed to have a slight disgust for food. The serum seemed to have no effect one way or the other on the urethral discharge. The man is so grateful that he is willing to appear before any meeting of medical men for me, relate his experiences and tell of the almost marvelous relief he has obtained.

Jan. 1-15, 1909—Entirely free from all pain and was practically so when local treatment was instituted. Patient cannot fully flex middle joint of little finger right hand as a result of the arthritis.

Jan. 2-6, 1909—No pain in last month, and rapidly gaining in weight.

ON THE CHARACTER OF THE STATE BOARD EXAMINATIONS AND THE COMPETENCY OF THE STATE MEDICAL EXAMINING BOARDS.*

BY

WILLIS G. TUCKER, M. D.,

Albany, N. Y.

It is a somewhat surprising fact that the competency of state medical examining boards has seldom been questioned, and that so little attention has been paid to the methods by which the members of these boards are selected. If it be asserted that, under existing conditions, an examination is the only practicable method for determining the competency of candidates for license to practice medicine, it is evident that the examinations should be carefully, fairly and skilfully conducted, and it is indeed surprising that, at a time when criticism of the colleges is so common, we should find so little attention paid to the nature and scope of the examinations, and so much importance attached to the results obtained. Is it not obvious that unless these examinations are fairly comparable, and a uniform method of marking is adopted, the results in different states must vary widely, so that no reliable conclusions can be drawn from them? Under existing circumstances a man's competency and his right to practice may largely be determined by geographical necessities.

The laws regulating medical licensure in the different states vary widely and the standards which have been adopted by different boards are far from uniform. In many states there is but one board; in a few there are two; in others, three; and in still others the responsibility is vested in the State Board of Health. The examiners are appointed in a variety of ways and no tests to determine real fitness are ordinarily applied, but positions are not infrequently obtained through favor, or by self-seeking individuals who have regard to the emoluments of the office which are sometimes considerable. A competent board should be composed of *experts* and men skilled in teaching but such is seldom the case. If it is remembered that the graduates of most medical schools are required to pass a series of examinations covering a period of four years, and to reach a certain prescribed standard determined by a combination of many marks in many departments with other tests, shall it be said that if a faculty of professed teachers and experts find a candidate for degree competent they are in error because a board of non-experts arrives at a different conclusion as the result of a single series of exclusively written examinations. I do not think that this can be fairly asserted, and if not, then the results of state examinations are not properly to be regarded as conclusive, and inferences drawn from these results as to the value of the work done by the colleges and the competency of their faculties should not be accepted as convincing.

Let it be said most distinctly that I have no desire to bring a general charge of incompetency against the medical examining boards of this country. Most of the members of these boards

*Read at the Fourth Annual Conference of the Council on Medical Education of the American Medical Association held in Chicago, April 13th, 1908.

are probably discharging their very responsible duties to the best of their respective abilities, but I am clearly of opinion that these boards should be composed of men expert in their several departments and skilled in pedagogy. If necessary to select them from the faculties of the colleges their compensation and tenure of office should be such that they would be willing to resign their faculty positions, for no member of an examining board should be connected with a medical school. If the difficulty of securing the services of such examiners be urged it can only be said in reply that none others are competent, and that it is clearly the duty of the state to secure the services of competent examiners regardless of cost or any other consideration.

To enter into a general discussion of the character and scope of the licensing examinations as now existing in the different states would require much time and more knowledge than I possess and is beside my present purpose, but I should like to bring to your attention a single paper set at a recent examination in a great state. It is in chemistry and is as follows:

1. What is valency?
2. What characteristic reaction would ozone or hydrogen dioxide have on potassium iodide?
3. Complete this formula (*sic*):—$Na_2SO_4+2C+CaCO_3=$
4. What is formed by treating hydrochloric acid with manganese di-oxide?
5. Complete this formula (*sic*):—$K_2O_3+2C=$

I have been engaged in teaching chemistry in a medical school and elsewhere for over thirty years and have no hesitation in saying that this paper is entirely inadequate and absolutely worthless as a test of a man's knowledge of chemistry as related to medicine, and in determining his competency to practice medicine. Only two of the questions, the second and fourth, have any bearing upon medicine, and while the fourth is simple enough it is comparatively unimportant for the reason that chlorine is not ordinarily generated on a large scale in the manner specified. The first question might be retained if the number of topics had been greater, but to give so much weight to a matter like valency in a *medical* examination is entirely unjustifiable. The third question has to do with the chemical changes taking place in the manufacture of soda-ash by the old process and while proper enough in its place is of no more interest or importance to the student or practitioner of medicine than the canals of Mars. The last question assumes the existence of an oxide of potassium that I never heard of and which has, I believe, no existence. The examiner had in mind the reaction taking place in the manufacture of metallic potassium which I conceive to be a procedure as far removed from everything medical as the manufacture of furniture polish or shoe-blacking. This paper may be objected to on the lawyer's grounds,—that three-fifths of the questions are incompetent, immaterial and irrelevant. The possession of such information proves nothing as to medical competency and the lack of it should be allowed to debar no man from securing his license. I doubt whether one member in ten on our state boards, save perhaps the examiners in chemistry, could get forty per cent. on such a paper as this. It was published in the *New York Medical Record* for February 15, 1908, at page 293, and has been verified by comparison with a copy of the original paper which was kindly sent me by the secretary of the board.

Now the failure to pass such an examination as this would insure the rejection of a candidate in most of our states. Is it not time that we had some discussion of a matter of such grave importance as this? If men are to be rejected by our state boards because they cannot get the required number of credits on such papers it is time that the profession should know it, and the people understand it, that they may go to their legislatures and secure the enactment of better laws. Members of various boards have recently been emphatic in their condemnation of the colleges and of the medical curriculum as it is supposed to exist. It may be asked of these critics with propriety whether teachers of chemistry like myself are to take such a paper as I have cited as indicating the subjects which the state boards consider should be taught in the medical schools. The influence of the boards upon the schools will be baneful unless the members of these boards have such wisdom, sound judgment and discretion as fits them for the proper discharge of their very important and responsible duties. The examining and licensing boards stand over the colleges and if it is the duty of the colleges to fit men not only to enter upon the practice of their profession, but to qualify them to meet the requirements of these boards, it is evident that the colleges are badly handicapped in their work unless there be a substantial agreement between them and the boards as to what should be taught and how their instruction should be given. There

is no such agreement at the present time, but on the contrary one board requires an applicant to pass such an examination as might reasonably be demanded of a general practitioner who has had the kind of experience which no man can acquire in *any* school, and another places before him examination papers which deal with the ordinary foundation principles as they are laid down in the text-books commonly employed. It is impossible for the colleges to prepare their pupils to meet all of these many, varied and constantly changing requirements, and any system of instruction which has for its end and chief aim the preparation of men to *pass examinations* is vicious in principle and sure to sink to a mere process of cramming.

There has never been a time when the medical schools in this country,—and I speak more particularly for the east and especially of those in my own state because I know more about them —were so well equipped, or doing such thorough work as the present, and yet they have never been so frequently condemned. This is much to be deplored for it is unsettling to public confidence and tends to diminish the respect in which a great profession is held. No part of our educational system is perfect nor ever will be, and the same charges now brought against the medical schools might with as much reason be made in the case of our common schools, high schools, colleges and technical schools of every kind. They are largely unreasonable because based upon the assumption that any educational method ever devised can impart a perfect and complete training in any field whatever. If such conferences as this succeed in bringing about a better understanding between the official boards and the colleges, and particularly if they result in securing the adoption of more uniform and satisfactory tests for determining the qualifications of applicants for license to practice, those who take part in them will not have labored in vain.

Causes of Albuminuria.

SYSTEMIC DISEASES.

1. Consumption
2. Scrofula
3. Heart Disease
4. Syphilis
5. Anaemia
6. Acute Exanthemata
7. Fevers
8. Exophathalmic Goitre
9. Apoplexy
10. Epilepsy
11. Locomotor-Ataxia
12. Arterial Sclerosis
13. Malarial Poisoning
14. Asthma and Hay Fever

ADVENTITIOUS CAUSES.

1. Exposure to Cold
2. Prolonged or Violent Muscular Exertion
3. Pregnancy
4. Alcoholism
5. Poisoning by Lead, Phosphorus Carbon-Monoxid, Morphia Turpentine, Cantharides
6. Adolescence
7. Accident or Injury
8. Diet

GENITO-URINARY.

1. Bright's Disease
2. Haematuria
3. Glycosuria
4. Gonorrhoea
5. Pyelitis
6. Pyuria
7. Cystitis
8. Enlarged Prostate
9. Leucorrhoea
10. Menstrual
11. Seminal Fluid
12. Vaginal Discharge.

Treatment of Intolerance of Quinine.—Nogara reports a case of threatening acute malaria in which the necessary quinine caused convulsions, with fever, whenever it was taken. After ineffectual trials of various preparations of quinine, with the same disastrous results, he decided to place the patient under the influence of morphine plus atropin. Under the influence of these drugs he tranquilly injected up to fifteen grains of quinine without further disturbances, which promptly arrested the threatening symptoms.—*Gazzetta degli Ospedali e della Cliniche, Milan, via J. A. M. A.*

Another Antidote for Carbolic Acid.—The common antidote for carbolic acid, alcohol, is, as a rule, satisfactory, but common cider vinegar is equally good. The credit of first introducing it as an antidote for carbolic acid poisoning is given to Dr. Edmund Carlton. Externally in full strength it quickly restores the color and functions of the skin that have been injured by the acid and removes soreness and other ill effects. Internally it is used diluted one-half or two-thirds, according to the strength of the vinegar, and is slowly administered in teaspoonful doses.—*Med. Summary.*

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

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EDITORIAL.

We publish in this issue of the "MONTHLY" a letter from one of the members of the State Society who raises objections to the resolution passed at the Rutland meeting prohibiting members from doing contract work for organizations at reduced rates. Other communications regarding this matter, or any other of interest to members of the society, will gladly be published, provided they are not anonymous.

That the education of the lay public on the nature of disease and method of prophylaxis and cure is a comparatively new idea is strange.

There is no subject upon which everyone is so vitally interested as their own health, and that of those near and dear to them. Medical knowledge so long as it was confined to the medical profession alone, could do little toward lessening the prevalence of disease however much it might lower the mortality rate and ameliorate the sufferings of the victim, for the very essential of prophylaxis is the intelligent co-operation of all.

The cure of disease is a personal matter, but the prevention of its spread is a civic problem. Never before has this been seen so clearly as now—never has disease been attacked by such an unbroken front of resistance as is seen now in the wide world struggle against tuberculosis. The frightful spread of this disease is due to conditions which are largely remedial; the ignorance, or carelessness of the infected individual, and the needless unhygienic habits of the uninfected.

The remedies for these conditions are largely within the grasp of even the poorest—all that is lacking is knowledge. The attempt of an educational crusade should be—first to impress the public, rich and poor alike with the terrible menace, and then to make the knowledge of method of cure and prevention common property.

With this end in view, the State Board of Health in its added capacity of tuberculosis commission, is planning to carry on an active educational campaign. Meetings will be held in different parts of the State where, by means of models, charts, lantern slides, phonograph, and lectures, a knowledge of the simple principles of prophylaxis and cure of the disease will be spread as could be done in no other way.

The impetus gained at the International Tuberculosis Congress is being felt all over the world, and such educational campaigns are being conducted in every civilized country.

This work cannot fail of accomplishing much, and while tuberculosis will undoubtedly still be far from rare for many years, we can safely anticipate a great limitation of its spread in the near future.

A progressive piece of legislation was placed upon our statute books when the governor signed the milk inspection bill. This makes universal the regulations which have been en-

forced in a few of the larger cities in the state for some time.

If the Boards of Health comply strictly with the letter of the law, it will do much toward eradicating tuberculosis from the dairy cow. It is certainly to be presumed that a negative tuberculin reaction will be demanded as a proof that the cows are in a healthy condition. This, with the new law requiring the sterilization of milk and buttermilk returned from the creameries, would seem to come as near a general compulsory test and slaughter in its result, as it is possible for any less radical measure.

We are printing in this issue of the Journal a paper by Willis G. Tucker, M. D., of Albany, N. Y., which was read at the fourth annual conference of the Council on Medical Education of the American Medical Association held in Chicago April 13, 1908.

Dr. Tucker has hit the nail on the head. If state examining and licensing boards are to be of any service in determining the fitness of medical graduates to practice medicine, or if the character and efficiency of the teaching of medical schools is to be determined from the result of such examinations, it is apparent that these boards should be composed of men who are especially qualified for this work.

It is not expected that the general practitioner should be a specialist in everything or even a specialist in anything, and when his patients have a disease or condition out of the ordinary he calls in a physician who has had special advantages for becoming proficient in the diagnosis and treatment of that particular disease or condition.

The state examining and licensing boards are made up very largely of physicians who are doing a general practice. Is it reasonable to assume that examinations conducted by physicians who do not trust themselves to care for their own patients when suffering from some of the diseases which are included in those examinations —surgery for example—are of great value in determining either the personal qualification of the applicant, or the teaching efficiency of the institution from which he graduated? Or what importance could be attached to the results of an examination on pathology given by a man who graduated in medicine twenty years ago and who had been in active practice since and consequently has had little if any time to do systematic study? The same question could be asked as well in regard to examinations in all the so-called primary subjects of medicine.

It is unfortunate that some medical schools should have been conducted in such a way as to deserve the unpleasant reputation which they have. It is more unfortunate that as a result of this unsatisfactory condition in some medical schools, all medical schools have come more or less under the ban of incompetent teaching, dishonesty or personal favoritism thereby necessitating a separate and supposedly disinterested board to pass upon the qualifications of all medical graduates before they can be allowed to practice.

It is also most unfortunate that such implicit confidence has been placed upon the results of the examinations of state examining and licensing boards and their competency, honesty or personal favoritism has never been questioned.

To the Editor of the
Vermont Medical Monthly:

It was voted at the last meeting of the State Medical Society to ask those members, who are paid by the year by fraternal organizations to resign their offices in such fraternal organizations or to resign from the State Medical Society.

This may be a just resolution. We doctors, certainly, are doing a great deal of free work for patients well able to pay ordinary fees. The visiting staff on our different hospitals do the most.

In many country districts, where the patient is sent to the hospital for operation the operator gets no fee, while the family physician gets his travelling expenses and from $5 to $15, from the patient, for being on hand during the operation.

What does the visiting physician or surgeon get out of these patients, and why does he do the work? Out of philanthropy or charity? No. Experience, fame? Yes.

If the State Medical Society is going to lay down hard on its members let it begin here.

After this class is disposed of, look up the members who are making inspections followed by a detailed report of a prospective candidate for industrial insurance, and receive therefor 25 cents from the company.

The third class is the physician who makes an insurance examination, including a urinary analysis, for a fee ranging from $1 to $3.

The fourth miscreant is the member who bids off the town's poor, for a stated sum far below regular fees.

To the next class belongs the member who gladly attends the druggist, the dentist, the parson and the teachers in non-charitable institutions free of charge.

To the sixth and last class belongs the member who has been so peremptorily ordered by the State Medical Society to be good or get out; and he is beginning to realize that he is up against a serious problem. He gets fame, experience, fraternal influence and full pay for what actual work he does for the organization for which he is physician.

I speak from 12 years' experience and stand ready to prove to any member of the State Medical Society the truth of my statement.

I belong to the 1st, 3rd, 5th and 6th classes mentioned above, and believe that if one class must quit doing work below the standard rate let this rule apply to all.

Unfortunately I was unable to be present at the last meeting of the State Medical Society and I must ask you for space in your columns to express my protest to the unjust resolution.

Thanking you for past courtesies, I remain

Yours very truly, E. J. Melville.

NEWS ITEMS.

Dr. J. E. McSweeney has moved from Barre, Vt., to Hartford, Conn.

Dr. J. W. Perreault has recently opened an office in Manchester, N. H.

Dr. George Frechette of Manchester, N. H., died at the Notre Dame hospital February 24.

Dr. D. C. Jarvis has opened an office at Barre, Vt., for the treatment of diseases of the ear, eye, nose and throat.

Dr. Charles W. Allen, for six years secretary of the Franklin, N. H., Board of Health, has recently resigned.

Dr. E. L. Wilson of Lisbon, Me., died at his home February 23, aged 43 years. Dr. Wilson was for many years town physician of Lisbon.

A conference of the secretaries of the New Hampshire County Medical Societies was held at Concord, Feb. 9, to consider a new constitution for the state society.

The name of Dr. J. T. Rudden of Bellows Falls was omitted by mistake from the list of members of the Vermont State Medical Society published in the November issue of this Journal.

Dr. Ernest L. Wheeler of Augusta, Me., died at the hospital of that city February 15 after an operation for appendicitis, aged 40 years. Dr. Wheeler was a lecturer in the medical department of Dartmouth.

Dr. James S. Brown of Manchester, N. H., died of pneumonia at the Sacred Heart Hospital February 22, aged 37 years. Dr. Brown was a graduate of Dartmouth and the University of Pennsylvania.

Dr. and Mrs. Gardner C. Hill of Keene, N. H., are spending the winter in the south, in New Orleans and vicinity, taking in Mardi Gras. On their return they will make an extended stay in Washington, D. C.

Dr. Darlington, health commissioner of New York City, has offered the novel prize of a couple of high bred cows for the best paper written by a dairy farmer sending milk to the New York market on the best means of securing a pure supply.

The February meeting of the Burlington and Chittenden County Clinical Society was held at Burlington, Vt., February 24. The paper of the evening was presented by Dr. C. A. Peters of Montreal, "Some Recent Work Done on Syphilis," illustrated by stereopticon views.

An attempt was made to take the life of Dr. Harry B. Perkins of Haverhill, Mass., by Mrs. Clara Riley, who entered his office armed with a revolver. The revolver was taken from Mrs. Riley before she could do harm. The following day she was committed to the insane asylum.

The regular meeting of the White River Medical Association was held at the Junction House, White River Junction, February 23. Dr. F. von Tobel of Lebanon, N. H., presented a paper and Dr. O. W. Sherwin of Woodstock gave a talk. General discussion was opened by Dr. F. A. Smith of Lebanon, N. H.

Dr. Milton S. Woodman died at his home in West Lebanon, N. H., February 27, aged 48 years. Dr. Woodman was a graduate of Dartmouth Medical College in the class of 1888. He was a member of the White River, Grafton County and New Hampshire Medical Societies. He was a charter member and the first president of the A. K. K. medical fraternity.

The following physicians who received the examination of the Board of Medical Registration at Montpelier Jan. 15-16 were granted certificates: Dr. H. P. Blanchard of Moultonboro, N. H., Dr. Charles H. Babbitt of Nashua, N. H., Dr. Clayton F. Camp of Barre, Vt., Dr. Wm. C. Craig of New York City, Dr. H. Royce Marvin of Lynn, Mass., Dr. Geo. E. Morgan of Hartwellville, Vt., Dr. Charles W. Phillips of Arlington, Vt., Dr. Henry J. Shireson of Boston, Mass., Dr. S. M. Workman of Nashua, N. H., Dr. Geo. V. Wager of Groveland, Mass. Dr. Merlin F. Blodgett of Corinth, Vt., was granted a certificate by reciprocity with New Hampshire.

The following nominations for the staff of the Fanny Allen Hospital have been approved by the board of trustees: President, Dr. P. E. McSweeney; secretary, Dr. Lyman Allen; surgeon for the first quarter of the year, Dr. S. E. Maynard; visiting physician for the first quarter, Dr. D. A. Shea; surgeon for the second quarter, Dr. P. E. McSweeney; visiting physician for the second quarter, Dr. R. W. Johnson; surgeon for the third quarter, Dr. C. A. Pease; visiting physician for the third quarter, Dr. J. W. Sheehan; surgeon for the last quarter, Dr. Lyman Allen; visiting physician for the last quarter, Dr. C. M. Ferrin of Essex Junction; attending specialist in diseases of the eye, ear, nose and throat, Dr. F. J. Arnold; attending proctologist, Dr. D. C. Hawley; pathologist, Dr. B. H. Stone.

A new mode of securing local anesthesia, recommended by Bier, is adapted to certain operations on the extremities: The limb is first elevated and rendered bloodless by the application of a constrictor. Tourniquets are then tightly applied above and below the proposed field of operation. Under infiltration anesthesia a principal vein or one of its tributaries is exposed in the distal portion of this field. Through a canula secured in a small longitudinal incision in the vein, 50 to 100 c.c. of a one-half per cent. solution of novocaine are introduced. The injection of the solution is made under considerable pressure in order to distribute it through all the tissues between the tourniquets. In from three to five minutes complete anesthesia is obtained which continues for a length of time sufficient to perform any operation. At the completion of the operation, and before removing the tourniquets, the novocaine solution is allowed to escape; as an extra precaution the veins may be washed out with saline solution.

Typhoid Fever.—The death rate from typhoid fever alone is estimated at 50,000 annually, and it is admitted to be a preventable disease. In addition to this, it is estimated that 500,000 people every year have the disease and recover. In reckoning the cost of typhoid fever, Doctor Victor Vaughn says: "To get down to dollars and cents, which is the American way of figuring everything, say that the average human life is worth a thousand dollars. Then, with 50,000 deaths from this disease, we are losing by death alone $50,000,000." Besides this there is the time lost by the 500,000 people who are sick, the cost of the doctor and other expenses, in an average duration of sickness of forty days for each case. Reckoned in dollars and cents, it is estimated that the people of the United States are paying annually a tribute of $90,000,000 to our ignorance and carelessness regarding only one of the preventable diseases. —*Pacific Med. Jour.*

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What assurance have you, when you write a prescription for a fluid extract, tincture, elixir, pill, tablet, or other form of medicament, that the agent which you are prescribing is worthy of confidence? What guaranty have you that it is therapeutically active and of established medicinal strength? What warrant have you to expect a definite result from a definite dosage?

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The pharmaceutical market of to-day contains no end of substances that pose as therapeutic agents, but of whose actual worth nothing is known—a condition which must prevail so long as makers of medicines neglect or refuse to standardize their products.

The situation is startling when one contemplates it seriously. For example, a fluid extract of aconite or digitalis or a tincture of strophanthus may be quite deficient in activity; or it may be potent to the point of danger. The administration of toxic drugs of uncertain strength is fraught with serious possibilities. **It may mean a sacrifice of human life. It may mean the blasting of a professional reputation.**

Happily, the physician of to-day may spare himself the necessity of resorting to remedial agents of indefinite potency. The problem of a safe and rational therapy is a problem no longer. We began its solution thirty years ago, when we put forth our first standardized fluid extract. We have been helping to solve it ever since. **To-day our entire line of pharmaceutical and biological products is adjusted to fixed and definite standards**—by chemical assay when practical, by physiological assay when the older method is inexpedient.

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THERAPEUTIC NOTES.

Tonics and the Climacteric.—A good many physicians realize the value of effective tonic medication during that rather variable period in a woman's life known as the climacteric. The tendency to the psycho-neuroses when such a patient's general vitality is low, emphasizes the necessity of bringing the nutrition and general health to as nearly normal point as possible. As a usual thing to the extent that this can be accomplished, to that extent the recognized dangers can be averted. Extensive clinical experience has proven beyond controversy that no remedy has a broader field of utility as a general reconstructive and restorative than Gray's Glycerine Tonic Comp. Under its administration the digestion improves, absorption and assimilation are increased, and proper elimination promoted. The nervous system is rapidly toned and helped to recover its balance. Thus its resistance to dangerous influences is promptly raised and the woman undergoing the "change of life" instead of drifting into a condition of permanent invalidism, and becoming a confirmed neurotic, is able, through a re-establishment of her vigor and strength, to look on her symptoms as simply incidental to a physiological process. Greater reliance, therefore, on the tonic influence of Gray's Glycerine Tonic Comp. and less resort to bromides and opiates, has saved many a woman from neurotic maladies that are worse in many respects than death itself.

Dysmenorrhea.—Whether a congestive, neuralgic or membranous type of dysmenorrhea, Hayden's Viburnum Compound acts most promptly and effectively. If administered a week in advance of the flow, and its use is continued in slightly reduced doses throughout the period, the excruciating pains and cramps will be relieved.

The Borderland of Disease.—There is a growing tendency on the part of medical men to recognize the pathological importance of certain, at present, little understood conditions of the blood. Some of these indeterminable deviations from the normal present none of the aspects of the anemias, but nevertheless bear a direct relation to increased susceptibility to bacterial infection. The studies of Wright on the opsonins, so called, are of special interest in this direction, inasmuch as they have in a measure converted many of our abstract theories into concrete facts. That certain constituents of the blood may be diminished without apparent decrease of the corpuscular elements or of the hemoglobin, is at last fairly well established, and while the specific properties of these constituents are not as yet definitely known, there is abundant reason for attributing certain phases of malnutrition, as well as a general lowering of organic resistance to bacteria, to their absence or decrease. The clinical expression of this blood weakness, or chemico-physiologic deficiency, is subject to great variation, but the symptom-complex usually consists of a general physical decline, loss of weight, increased tendency to fatigue, and a fickle or decreased appetite,—all of which go to make up a picture of what is usually loosely termed general debility. In addition, when the blood dyscrasia is marked, two objective symptoms are frequently noted. These are slight transitory enlargement of the cervical lymphatics, and a marked susceptibility of the skin to abrasions and infection. Simple injuries produce wounds that heal poorly and the processes of repair seem to be very feeble and inadequate.

This then in a general way constitutes what may be called the borderland of disease, a condition which even if it does not always precede tuberculosis, ty-

phoid fever, pneumonia and many other diseases, certainly favors their development and tends to increase their severity.

The correction of this indefinite but none the less dangerous state of the blood is always urgent, particularly because of the favorable opportunities presented for increasing the resistance to those diseases to which it predisposes.

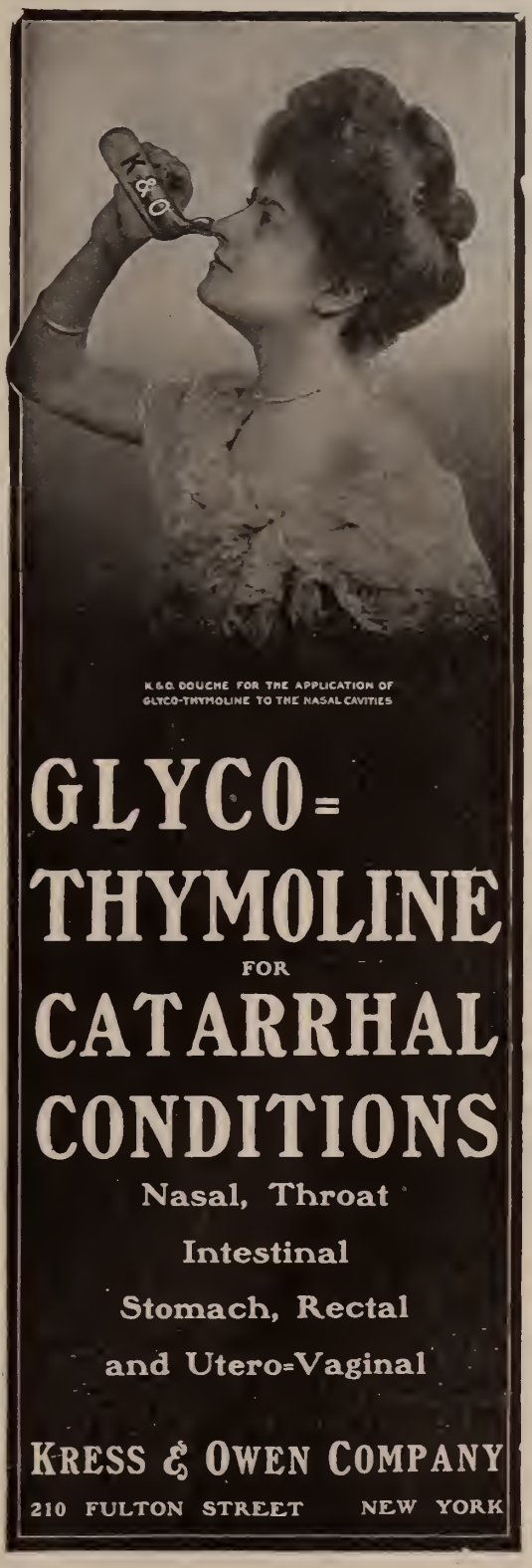
Regulation of the diet, careful attention to the personal hygiene, and as much outdoor living as possible are the essential features of the careful treatment of this condition of blood depravity. A good tonic is quite necessary in connection with the foregoing, and Pepto-Mangan (Gude) has been found very effective. Its pronounced hematogenic action is well-known, and the rapid hematosis which result from its administration unquestionably has a decided influence in coincidently raising the relative immunizing power of the blood. Reparative processes in wounds are stimulated, simple glandulous swellings disappear, and tangible improvement in the general bodily nutrition rapidly follows. All this is accomplished, moreover, without placing the slightest tax on the digestive tract, and the patient is thus able not only to derive the fullest benefits from every effort in his behalf, but the course of his recovery is progressive and unbroken. His vital resistance is materially raised and the balance of functional vigor restored to the normal. That the extent to which this is accomplished measures the decreased liability to infectious disease, can no longer be doubted.

Cod-Liver Oil in Convalescence from Acute Lung Diseases.—The unquestioned value possessed by cod-liver oil in all conditions of reduced vitality and particularly in those marked by serious nitrogenous waste, has won for it the most extensive use and firmly established it in the medical profession's favor. Not alone in chronic disorders, attended by malnutrition, has its worth been demonstrated but also as a builder of tissue and a restorative in convalescence, especially in that state following acute lung and bronchial inflammations.

At the present season, keeping in mind the prevalence of lung and bronchial diseases, cod-liver oil's possibilities as a food and tonic should not be overlooked. Few diseases leave a patient so utterly broken-down and so susceptible to a still graver disease as do these acute infections of the lungs and bronchi. Judicious care and a properly chosen therapeutic regimen, during the several weeks immediately following a pneumonia, may determine the difference between complete recovery and the grafting on of a tubercular process.

At this important period, the indicated remedy, cod-liver oil, stands out in bold relief against a background of a host of drugs. But care must be taken that a palatable preparation be chosen, for, though a serviceable product be selected, if its use disturbs the stomach and interferes with this important organ's function, its value will be vitiated by the harm done to the gastric apparatus.

Hagee's cordial of the extract of cod-liver oil compound is the ideal preparation of this class and daily it demonstrates its efficiency in the hands of thousands of physicians. Extemporaneously prepared cod-liver oil combinations cannot receive serious attention when the medical profession has at its command such an elegant, palatable and yet, withal, meritorious agent as Hagee's Cordial of the Extract of Cod-Liver Oil Compound. Granting, however, that a product prepared in small quantity and at irregular intervals has some merit, it cannot be so



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trustworthy as one which is prepared in large quantity and accurately compounded by men who make its preparation a life work.

It is this feature that puts Hagee's cordial at the head of the cod-liver oil preparations, insuring for it stability and certainty of composition. The efficiency of this cordial of the extract of cod-liver oil as a reconstructive is largely enhanced by the addition of the hypophosphites of calcium and sodium, which are in themselves tissue foods of the highest order. The routine administration of Hagee's cordial during the period of convalescence from acute lung and bronchial diseases practically insures against the possibility of chronicity of the original disease.—*Medical Era.*

Carbolic Acid Tablets.—As a practical innovation the carbolic acid tablets prepared as directed by Gentsch are of interest. They are made without the addition of any adhesive material, from a double combination of three molecules of phenol with one molecule of potassium carbolate; this preparation is obtainable in well-formed crystals melting at 106-108° C., while free phenol is well known to melt at 40-42° C. It is thus possible to carry the tablets about with one in exact doses. They are readily soluble in water, more so than in pure phenol. —*Merck's Annual Report.*

Flies.—One of the most hopeful signs of the time is the truth that the people are gradually awakening to the fact that domestic pests are not only an inconvenience to living but a positive danger to health. Rats are being fought in the plague-stricken countries like wild beasts, mosquitoes are exterminated by millions, and even the domestic fly will soon have to stand fire all over the country.

Since the work that demonstrated the fly to be responsible for much of typhoid fever and other communicable diseases, the peculiar position of the fly to our living has been recognized. He is the intruder to whom no precincts are sacred, the disturber of rest, the carrier of disease, who is ever present in every home. Breeding as he does in the manure pile or the dung heap, he has free admission to the best society. He travels from the privy to the dining table without stopping to wipe his feet. He is the only individual who is privileged to lunch in the garbage can and dine with the family at the table.

But it will not be so much longer. The extermination of the fly is not easy, but it is not impossible. Screening of manure boxes, frequent removal of garbage, absolute cleanness about the place will do much to lessen his numbers, and it is not too much to hope that science will ere long give us a method of warfare that will banish him from our homes, and with him will go a good part of the diseases from which we suffer.—*Virginia Health Bulletin.*

Physicians Rejected.—More than a dozen New York physicians were recently thrown out in a Washington examination for the Medical Corps, and of the fourteen who passed successfully, out of the fifty-six who offered themselves, not one is from New York. Those who came up to the standards will be sent to the Army Medical School for eight months, when they will be examined and either rejected or receive their commissions as first lieutenants. The army is anxious to recruit the Medical Corps to its full strength, but it is having difficulty in finding men suitable for the positions.—*Med. Times.*

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How Women Face Suffering and Death.—A British colleague has observed: Tell the man of higher type and greater intelligence that he is facing death and he begins to fight, demands a consultation, talks of going to specialists and fights grimly to the finish. Tell a woman the same facts, and she lies back to await her fate. All women are fatalists. But tell a man that he has one chance in a thousand to recover if he will undergo an operation, and he will trust rather to his own strength and endurance than endure the knife. The woman will choose the thousandth chance and submit with amazing calmness to the operation.—*Medical Times.*

Medical Fees in Ancient Greece consisted originally in presents; but at the time of Hippocrates payment in money was already customary (*N. Y. Med. Jour.*). Physicians also received public praise, the "crown of honor," the freedom of the city, the privilege of eating at the King's table. Physicians employed by the state received a yearly salary. Rich people would pay enormous sums for successful treatment—as high as $200,000.—*Med. Times.*

False Hair, Dr. Waldstein, State professor of fine art at Cambridge University has found, was worn extensively as long ago as 5,000 years before the Christian era. From Egyptian excavations we learn that the mode of hair dressing in ancient Rome was subject to frequent change, "and the ladies of that period found artificial aid just as necessary as in the present day." In Grecian explorations, perfect sets of teeth, gold-filled, are found, made very much on the plan dentists adopt to-day. The ancient Greeks and Romans habitually used the razor, but oil, not soap, was used to soften the beard. Tempora mutantur seems an erroneous sentiment; for times do not greatly change, certainly not regarding fashions and physical customs.—*Med. Times.*

Leprosy.—It is well observed that never does the knowledge of the presence of leprosy in a resident of the North Atlantic Coast States become public without directing attention to the senseless, panic fear bred by this disease among the non-medical. Philadelphia recently had such a case, and the lay press described the family of the victim "without a home and the father unable to obtain employment" as being "in a sorry plight." Only a short time ago a leper was being hunted like a wild beast in West Virginia, and the unhappy condition of a discharged United States soldier suffering from the disease has called forth much comment. A proper institution for the treatment of the afflicted and popular education as to the real nature of leprosy are indeed sorely needed.—*Med. Times.*

A New Antitoxin is stated to be discovered against pneumonia, septicemia and typhoid, by Dr. Timothy Leary of Tufts College, the number of cases in which the vaccine has been successfully used is still too small to warrant a very optimistic statement. It is hoped to perfect a tuberculosis antitoxin in this institution by Dr. Leary and his associates.—*Med. Times.*

Water Pollution and Sewage Disposal.—We are said, states *American Medicine,* to have God's own country; man's own backyard and the devil's own cesspool; but our sewage system is that of the prince of devils—the quintessence of cruel disregard of the rights of others. "Is it not time we started a crusade for natural water instead of filtered sewage?"—*Med. Times.*

X-Ray Sterility.—The somewhat startling announcement, three years ago, that the Roentgen ray, among its freak effects, produced sterility in those who handled it extensively, was so far-reaching in its therapeutic and social importance that careful confirmation was demanded. This is now offered in the second volume of Transactions of the American Association of Genito-Urinary Surgeons, 1907, in a paper by F. Tilden Brown and Alfred T. Osgood, who originally discovered the condition.

Of the 13 cases traced since then, nine were in 1907 still destitute of spermatozoa, two were apparently restored to the normal and two showed a few spermatozoa on long search.

The patients, none of them, experienced anything abnormal in coition then or now, nor did they worry about the fact revealed by the microscope.

It was shown in the discussion that a leaden apron for the testes gave protection against this influence of the rays.

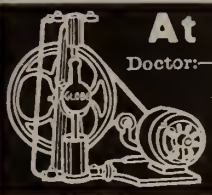
In one case a patient who showed but sparse spermatozoa left begot a child. Dr. Osgood thought the ray might, perhaps, relieve "certain obvious conditions of married life."

Reflecting on the above theme, it occurs to us that, short of destruction, the ray may be found useful as a testicular tonic, improving the quality and vigor of the spermatozoa. The lessening of their number, however, might improve the type of those produced.

In this discovery, too, may lie the solution of the vexed problem of sterilizing criminals and mental defectives—those individuals whom all thinkers believe should be prevented from propagating their kind, but whom no one likes to lay surgical hands on. With the electrocution chair in honorable use, Roentgen-ray sterilization would not seem repulsive.

Ovaries also call for similar observation. Do they cease to ovulate under the ray? If so, many social and therapeutic problems may be solved for us.—*Maryland Med. Journal,* Jan. 1909.

The Problem of Congestion has, in one instance at least, been solved. The warden of one of our city prisons explained the escape of a pickpocket as being "due to congestion." The zeal of the latter in doing all he could to the salutary end of relieving this is commendable. —*Med. Times.*



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VACCINATION; WHAT IT IS.—This is the title of an excellent pamphlet compiled by Dr. F. C. Curtis, dermatologist to the New York State Department of Health by which it is published. There is a history of smallpox, of Jenner's discovery, and many striking photographs are shown to illustrate the subject. Attention is particularly paid to the mild form of smallpox which has for some years past been prevalent in the State, but which retains many characteristics of the more virulent type and can be successfully met only by compulsory vaccination.—*Med. Times.*

THE DOCTOR FIRST.—It is gratifying to have those in charge of the Emmanuel movement state with emphasis that all patients treated by the clergy will first have the care of a physician. A set of rules has been drawn up by an advisory board of physicians who believe in the Emmanuel movement but also consider that new methods are necessary and in order. The rules are designed to avoid the earlier mistakes made by the clergy among those patients who have no family physicians. The rules have been adopted by the clergy; this at any rate is a sensible step. —*Med. Times.*

THE EFFECTIVE TREATMENT OF MEMBRANOUS COLITIS.—David Wark of New York advocates as a cure for membranous colitis the use of crude tar sold by ship chandlers (*Pinus palustris*) which is to be mixed with flour, as an excipient and placed in No. 2 capsules, two or three to be taken about one hour after meals. It acts as a laxative and relieves the obstinate constipation, pain in the abdomen, and tenesmus very speedily. A complete cure can be obtained in from four to six weeks.—*Medical Record.*

EUROPEANS, it would seem, are beginning to realize the value of high buildings, with elevators. which lift people into the dust-free, sunlit, higher region.—*Med. Times.*

CANCER AND GOITRE.—It is believed that in Switzerland, where 4,000 die annually of cancer, the tendency to that disease is less in regions where goitre does not prevail.—*Medical Times.*

Doctor!

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High opinions expressed from time to time by such authorities as W. Gilman Thomson, J. Hastings Tweedy, Sir Wm. Roberts, Henry Ashby, etc. attest to the splendid worth of



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¶ The value of senna as a laxative is well known to the medical profession, but to the physician accustomed to the ordinary senna preparations, the gentle yet efficient action of the pure laxative principles correctly obtained and scientifically combined with a pleasant aromatic syrup of Californian figs is a delightful revelation, and in order that the name of the laxative combination may be more fully descriptive of it, we have added to the name Syrup of Figs "and Elixir of Senna," so that its full title now is "Syrup of Figs and Elixir of Senna."

¶ It is the same pleasant, gentle laxative, however, which for many years past physicians have entrusted to domestic use because of its non-irritant and non-debilitating character, its wide range of usefulness and its freedom from every objectionable quality. It is well and generally known that the component parts of Syrup of Figs and Elixir of Senna are as follows:—

Syrup of Californian Figs ..... 75 parts
Aromatic Elixir of Senna, manufactured by our original method, known to the California Fig Syrup Company only ..... 25 parts

¶ Its production satisfied the demand of the profession for an elegant pharmaceutical laxative of agreeable quality and high standard, and it is, therefore, a scientific accomplishment of value, as our method ensures that perfect purity and uniformity of product required by the careful physician. It is a laxative which physicians may sanction for family use because its constituents are known to the profession and the remedy itself proven to be prompt and reliable in its action, acceptable to the taste and never followed by the slightest debilitation.

ITS ETHICAL CHARACTER.

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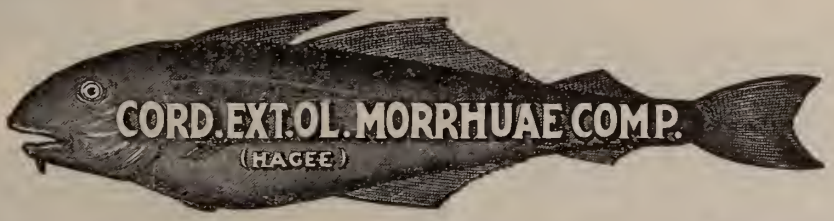
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Vermont Medical Monthly.

VOL. XV. APRIL 15, 1909. NUMBER 4.

ORIGINAL ARTICLES.

THE SANITORIUM TREATMENT OF TUBERCULOSIS.*

BY

H. D. CHADWICK,

Pittsford, Vt.

The recognition of the importance of combining rest, pure air, and good food in the cure of tuberculosis, has led to the establishment of sanatoria whose purpose it is to provide these three essentials for tuberculous patients. It must be granted that rest, fresh air and good food can be obtained in most of the homes in Vermont, but in addition to providing these things, close supervision is necessary that the patient be taught to take advantage of them, and furthermore be made to do it. The human is a social being and finds it hard to sit out of doors alone eight or ten hours a day.

Again, there are the friends and family to be seen, and long conversations indulged in which usually are made an excuse for remaining indoors. Besides keeping a person in, a visitor tires a patient much more than is realized, and mental fatigue is as productive of harm as physical exertion, and therefore, must be avoided. If there were no other advantage in going to a sanatorium, the escape from relatives and friends would be a sufficient reason, in most instances, for sending a patient away from home. Well may tuberculous patients pray to be delivered from their friends.

The best friend a patient can have is another tuberculous individual undergoing the same treatment.

There is no one factor so necessary in bringing about an arrest of a tuberculous process than mental and physical rest. The physician usually tells his tuberculous patient that he must get more rest, eat plenty of nourishing food, especially milk and eggs and get more fresh air. All good advice, but it is not specific enough. It should be explained that rest means absolute idleness, sitting or lying down out of doors. No walking nor driving, no exercise except going from the porch to the table for meals. And a patient having a temperature of 100° or more should remain in bed.

I find that many physicians do not understand the value of absolute rest. It will stop cough, night sweats, increase the appetite, improve digestion and it is surprising how quickly a high temperature will become normal under its influence. The general idea that exercise is needed to produce an appetite is a fallacy. The opinion that walking is needed to stimulate recovery has hurried many consumptives to their graves. Patients are encouraged by friends and often by their doctors to walk several miles a day. The longer the walk the quicker the cure, they think; and therefore, quickly use up what little strength they have. They come back exhausted and too tired to eat and what little nourishment is taken causes indigestion. They lose weight and increase their fever. One patient admitted to the sanatorium had been urged to walk by her physician. This advice was considered so important that when she came back to her home tired out after a long walk, her family would lock the door so that she would be obliged to take another of those health giving tramps. The result was, that all her symptoms became worse. After a week in the sanatorium her fever left her and she was surprised that her cough was so nearly gone. Absolute rest was what brought about this change.

I dwell upon this point because it is a common belief among the laity and I regret to say, among many physicians, that to get fresh air means walking. Fortunately, air is just as pure outside of one's house as it is in the highways and usually freer from dust. It is not necessary to go after it.

Another fallacy is that a patient must not be out in the night air or in a rain storm. Nothing could be more absurd. Night air is the air of day, lacking only in sunshine, and the air on a rainy day is purer than air on other days as it is freed from dust and smoke. The patient, however, when sitting out, should have a suitable shelter from rain and sun in summer and from storms and winds in winter. With such provision and suitable wraps, there is no weather which is unsuitable for a patient.

*Read before the Vermont State Medical Society at Rutland, Oct. 22-23, 1908.

Too often a patient is told to take all the milk and eggs he can. I doubt if too much milk is often taken, but frequently patients harm themselves by taking too many eggs. It has been my experience that patients cannot take more than three eggs a day for a long period of time without serious digestive disturbances. Anything that causes indigestion is a hindrance to recovery and should be lessened or omitted altogether. Harm can be done by too much food, especially is this so after patients have reached their normal weight. Then the lunches should be cut down or discontinued.

Since the opening of the Vermont sanatorium December 16, 1907, eighty-four patients have been admitted. These are classified as:

34 incipient,
35 moderately advanced,
14 far advanced,
1 non tuberculous.

Fifty-two of these have ben discharged leaving thirty-two now under treatment.

The average length of stay of those discharged, disregarding two patients who insisted upon returning home after a few days' stay, has been 14 weeks, 1 day.

Those discharged are classified as follows:

16 apparently cured.	12	incipient.
	4	moderately advanced.
23 disease arrested.	9	incipient.
	11	moderately advanced.
	3	far advanced.
6 improved.	4	far advanced.
	1	moderately advanced.
	1	chronic bronchitis.
7 not improved.	4	far advanced.
	1	moderately advanced.
	1	incipient.
	1	stayed but two days.

Twenty-one of those discharged gained from 10 to 30 lbs. each; 14 from 5 to 10 lbs. each; 12 from 1½ to 5 lbs., five made no gain.

The most desirable patients from a sanatorium standpoint are those that can attain an arrest of the disease in the shortest possible time. These are, of course, the incipient cases of the closed type. These can be discharged in three months' time apparently cured and well trained to avoid future breakdowns.

Next in suitability are the very few cases that can be properly classified as incipient and yet show bacilli in the sputum. Nearly all patients discharging bacilli have passed the incipient stage and must be classified as moderately advanced, if they have not already reached the far advanced type. Patients with moderately advanced disease, without much fever or severe constitutional disturbances, do well in a sanatorium, but require from four to six months to arrest the disease. Few of them can be discharged in that time as apparently cured.

The importance of an early diagnosis is shown in the fact that the sooner tuberculosis is recognized, the shorter will be the time needed for recovery and the greater the per cent. of cures. It is imperative, therefore, that the medical profession be always alert to detect not only the objective but the subjective symptoms of this disease. Mistakes or delays in diagnosis are of so costly a nature to the victim, and so serious in consequence to the family, that a physician must exhaust every means at his command to form a correct judgment. Not enough importance is attached to symptoms like loss of weight or strength, pleurisy or haemoptysis. For all practical purposes any pleurisy not followed by pneumonia can be considered tuberculous. All blood spitting which is not a preliminary to pneumonia or the result of nose bleed is a positive indication of phthisis. Hemorrhage from the pharynx is so rare that it need not be considered. The presence of cough and the finding of bacilli in the sputum are two points in diagnosis that cannot be depended upon when an early diagnosis is desired. Both these signs may be absent, even when there is well developed tuberculosis with marked physical signs. The general practitioner errs in diagnosis because he does not make a thorough examination of the chest and take a careful history. A good examiner becomes so only by the training acquired by constant practise.

Although tuberculosis has been known to be an infectious disease for generations, and the specific cause has been known for twenty-six years, yet one in every ten of our population dies from its ravages. Surely the medical profession cannot but deserve censure for allowing a communicable and curable disease to remain such a menace. It is said that the eradication of tuberculosis is a social problem, and so it may be, but it is, nevertheless a medical problem and its solution devolves upon the general practitioner who sees the individual when the first signs appear and is aware of the habits in the family life.

When the family doctor gets over the absurd idea that it is wrong to tell a patient the truth when he has symptoms of tuberculosis, when he stops making evasive diagnoses of "weak lungs," "sore spots on the lungs" and "chronic bronchitis," instead of calling it by its right name then more patients will escape death from consumption.

No practitioner can be more reprehensible than one who keeps a patient in ignorance of his true condition until the chance of cure has slipped by when the truth forcibly spoken and proper advice given would have saved a life. Too much dependence is placed on negative reports of sputum examinations. I sometimes think the ease with which a physician can have the sputum examined for him, does more harm than good because it makes him depend on a laboratory diagnosis when it it his duty to his patients to perfect himself in the finer points of physical examination, and to be able to make a diagnosis before bacilli appear. As long as doctors make perfunctory examinations through the clothing or without stripping a patient to the waist most of the incipient and many advanced cases will remain undetected. As long as physicians will treat their patients having suspicious symptoms of tuberculosis with a bottle of cough syrup, nux vomica or cod liver oil, until time makes the diagnosis certain, just so long will the death rate remain as it is.

Another serious condition which a sanatorium physician discovers is the lack of co-operation among practitioners. If one doctor by his skill in physical examination has made an early diagnosis and tells his patient to give up work for a few months and take the rest cure in the open air, he deserves support but often does not get it. This patient often consults another near-by physician who either is not so skillful in examination or, I regret to say, is unscrupulous and he ridicules the former diagnosis without sufficient study of the case. For a few dollars' gain he is willing to put in jeopardy a patient's life. A doctor has no right to disagree with a previous diagnosis of tuberculosis unless he is an expert in physical examination and has exhausted all reliable tests. He who does, may be responsible for the untimely death of his patient.

At that inspiring congress just ended at Washington, one could not but be astounded at the world-wide extent of the movement and the universal interest everywhere present to combat an unnecessary disease. The exhibits of foreign countries and the several states, were so extensive that it would take days to thoroughly appreciate them. Over a door in an inconspicuous corner were some photographs and floor plans of the Vermont Sanatorium. Nothing else showed that Vermont was taking part in this movement. If this state would keep up its reputation as the most healthful New England State, it must wake up in this matter or it will not long deserve this honor. It is true that there has been a State Tuberculosis Commission for several years. The retiring governor has recommended that it be abolished because it has served its purpose. I have lived in your state for a year and I have yet to discover what that purpose was. Their work was not on exhibit at Washington. I have no desire to criticise this commission; what can three men do if the medical profession represented by this committee will not become interested and co-operate with them? Members of this society have told some of our patients before they were admitted to the sanatorium that they should not go to such a place, as they now had very little evidence of disease and that they would be likely to contract consumption from contact with sicker patients. It is obvious, therefore, that the mote must first be cast out of the eye of the general practitioner so that the light shed by scientific treatment can be let in. Careful investigation of the records of sanatoria, some of which have been in existence for many years, fail to show that a single healthy person ever developed tuberculosis as a result of having worked or lived in such institutions. Gentlemen, there is no safer place in which a person sick or well can live than a well managed sanatorium. Your homes are no exception. I must call your attention to what seems a lack of appreciation on your part, to the value of sanatorium training by reminding you that since the Vermont Sanatorium was opened last December only one hundred and thirty applications have been made. Eighty-four of these have been admitted; only thirty-four were in the incipient stage. It took nine months to fill thirty-two beds.

I will respectfully suggest that this society take up the problem of anti-tuberculosis work and from its members appoint a central committee, composed of the officers of the society, and two representatives from each county society. The first duty of this committee would be to take a census of the number of cases of pulmonary tuberculosis which are under the care of the

physicians of the state. The number of incipient, moderately advanced, and far advanced cases could also be ascertained in the circular letter which would be sent to each physician. Those physicians who failed to answer could be seen personally by a representative of the committee. The expense of this would be small and should be provided for by the State Medical Society. Each county society should have its own committee made up of a representative from each town as far as possible. Anti-tuberculosis Societies should be formed in the cities and larger towns, composed of not only physicians but more especially of the influential men and women of the place. It is estimated that each death from tuberculosis means ten others already ill with the disease. Also, investigations recently made show that from twenty to forty per cent of the children living in houses where there is an open case of tuberculosis, on careful examination, show evidence of the disease. These societies must be formed before any general advance can be made towards stamping out the disease. Every case of tuberculosis should be under some one's observation and reports made to the nearest local society. The death of a person having tuberculosis may be made the means of teaching hygienic living and so save the remaining members of the family.

Money can be raised to send needy patients to the sanatorium and families can be aided while the wage earner is being cured or benefited so that he can become self supporting again. Such societies could look after patients discharged from the sanatorium and provide them with suitable work.

In a state the size of Vermont with no large cities, every well marked case of tuberculosis could be put under proper regulations within a year. A hospital for advanced cases is badly needed and what can bring this about quicker than the hearty co-operation of the members of the State Medical Society and Anti-Tuberculosis Societies of laymen that are brought face to face with the need of it?

Vermont has an opportunity to lead the other states with the lowest death rate from pulmonary tuberculosis. Will she do it? That will depend on you, gentlemen, the family physicians of the state. Your position as both friend and physician gives great weight to your opinion and advice. The privileges due to friendship and the responsibilities of a physician are both yours.

DISCUSSION OF DR. CHADWICK'S PAPER.

Dr. A. J. Valleau: I am sure we all feel very much indebted to Doctor Chadwick for his interesting paper. He has covered the subject so thoroughly, there is little left for me to say. Doctor Chadwick has said for every one fatal case of tuberculosis, there are ten living cases. If this is the case, Vermont must have somewhere in the neighborhood of forty-five hundred people who are suffering more or less with tuberculosis. For the last four or five years the death rate has been between four and five hundred a year.

The essential factor in sanatorium treatment is the systematic routine which the patient gets.

Doctor Chadwick spoke of an early diagnosis. It is true an early diagnosis is one of the essential points with regard to tuberculosis but we as general practitioners are not always able to get an early diagnosis. It is at times a very difficult thing. When you wait for a sputum examination to show the presence of the tuberculosis bacillus, you are waiting until your patient is at least in the second stage with caseation and extrusion. That is, of course, something which we should all avoid. The ideal early diagnosis should be made before tubercle bacilli show up in a sputum examination.

Dr. Holton: The reasons that persons in the incipient stage of tuberculosis do not seek the treatment at the sanatorium are various, but the three most obvious are:

In this stage a physician does not see them, they are not quite up to their usual standard of vigor, but instead of consulting a doctor, they try the usual domestic remedies, then various patent medicines, after months lost in these unsatisfactory and futile efforts to regain their accustomed strength, they consult the physician. Being an honest and correct diagnostician he tells the party that he has tuberculosis, that the disease has advanced to the second stage, explains the necessity of the adoption of prompt and efficient measures, suggests that he seeks admission to some sanatorium; both the patient and his friends insist that he is not sick enough to go to a "hospital," he reports to the doctor a few times, various persons tell him that "they don't care what that doctor says, they don't believe he has tuberculosis and advise that he consult another physician." Often either from sympathy and a hope that all will come out well, or a fear that it may not be wise to tell too much of the truth, he advises that the trouble is a bronchial irritation and that the patient will soon be well.

In other cases lack of funds prevent some from gaining admission, even for a few weeks, in which time they might receive instruction and demonstration in the methods of carrying on the treatment at home. This is particularly unfortunate, the splendid santorium given by Senator Proctor, cannot in any one year provide such education for only an exceedingly small fraction of the 2500 cases that are always present in our state. The state should establish two sanatoriums, in one of which should be received all cases in their first and second stages, thus giving them a chance for restoration to subsequent useful lives. The other for those far advanced where they could be made comfortable during their remaining days, at the same time they would cease to be a menace to others, thus preventing the communication of the disease not only to their own families but to others in their respective communities.

Dr. C. S. Caverly: I think I know one reason why there is so much difficulty in getting patients into the sanatorium and getting reports from physicians in treating cases successfully, and that reason is that there are a great many people who try to keep the knowledge of the presence of the disease from the patient. I think fully one-half of the relatives of the patients who came to see me, would make me promise that if I find any evidences of pulmonary tuberculosis, I shall keep it from the patient. I have known families to get vexed because following a notice to Dr. Holton, the member afflicted or family, receives circulars from his office regarding the disease. I can now think of two persons whom I have sent to the sanatorium, both of whom told me, when I told them they had tuberculosis, that it meant the end for them; that it meant a death sentence. Both have told me since, that they never got information so valuable as the advice I gave them to go there. I have seen several instances where patients have been denied this information which has been exceedingly disastrous. It occurs continuously. General practitioners fall in with this prevalent idea that the patient who has tuberculosis should not be informed of the fact. Ignorance of that fact is a serious handicap to any successful treatment and any one afflicted with tuberculosis should be so informed that proper care may be taken.

Closing discussion by H. D. Chadwick: Very much has been said with regard to the advisability of telling the patient who has tuberculosis. Now if they do not know what the trouble is, you can not get their co-operation, nor can you make them realize the importance of specific treatment. Much more could be said on this subject, but as the hour is late and you are all anxious to return to your homes, I will close by thanking you for your attention to my paper.

VALVULAR LESIONS OF THE HEART.*

BY

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The study of valvular lesions of the heart is one of intense interest and one which we as general practitioners of medicine are very apt to neglect. If a murmur be heard at the apex we are apt to diagnose mitral insufficiency, if at the base of the heart, aortic insufficiency, without carefully weighing any other symptoms which may be present.

To properly diagnose different conditions of the heart, one must be familiar with the organ as it is in health. Its size, shape, and sounds should be studied so that variations from the normal will be readily appreciated.

Hypertrophy and dilation must be carefully sought for. The intensity, rhythm, and character of the sounds both at the base and apex should be noted. Other organs of the body, as the liver, kidneys, and digestive system, should receive minute attention, and last but not least the pulse should be studied, as from the character of pulse we are very often able to make a differential diagnosis, after all other means have failed.

Both sounds of the heart are accentuated in excitement, anemia and hypertrophy. The aortic second sound is accentuated in any condition which increases the tension of the systemic circulation as arterio sclerosis, interstitial nephritis, hypertrophy of the left ventricle, etc. If the aortic second sound is weak, it indicates that the left ventricle is not able to do its work properly. Accentuation of the pulmonic second sound is produced by the blood pressure in the pulmonic circulation being raised, and is found in diseases of the mitral valve, pneumonia, emphysema, etc. When the pulmonic second sound begins to weaken, it indicates that the right ventricle is no longer able to maintain its work.

In estimating the difference in intensity between the pulmonic and aortic second sounds, it is well to bear in mind the difference which age makes. In childhood the pulmonic is louder while in middle age the two sounds are about equal in intensity, and in old age we find the aortic sound the louder. This is probably accounted for in part by the gradual increase in the resistance of the peripheral circulation.

The first sound at the apex is weakened in general obesity, general exhaustion, degeneration or dilation of the heart muscle, and in pericardial or pleural adhesions.

Often in health we find a reduplication of the diastolic sounds at the base and this is normal as the pulmonic valves should close first. This normal reduplication is best heard at the end of a long inspiration, and is more pronounced in any condition which raises the blood pressure in the pulmonic circulation, for example, disease of the mitral valve.

HEART MURMURS.

One of the best classifications of heart murmurs is the one used by Dr. Wilcox of New York.

During the auricular systole two murmurs may occur, one heard over the xiphoid cartilage, caused by tricuspid obstruction, the other heard at the apex caused by mitral obstruction. These two murmurs are called "auricular systolic."

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During the systole of the ventricles occur four murmurs called "ventricular systolic." The first heard best at the apex, is caused by mitral insufficiency, the second heard best at the xiphoid cartilage, is caused by tricuspid insufficiency. The third heard over the aortic area is caused by aortic stenosis, and the fourth heard best at the pulmonic area, is caused by pulmonic stenosis. During the diastole of the ventricle occur two murmurs called "ventricular diastolic" murmurs. One of these is heard over the aortic area, while the other is heard over the pulmonic area. These are caused by insufficiency of the aortic and pulmonic valves.

This classification is theoretically correct for murmurs caused by organic disease of the valves. In aortic insufficiency, however, we find that very often the murmur instead of being heard loudest over the aortic area is heard best over the center of the sternum or over the pulmonic area, the sound being transmitted to the left by the regurgitated blood.

Cardiac murmurs usually indicate some diseased condition of the valves, but it is impossible to make a diagnosis by this one sign, as we often find murmurs present when the valves are perfectly healthy. For example the so-called hemic murmurs, cardio pulmonary murmurs and dynamic murmurs. If we find no murmur present we should be very careful before we exclude valvular disease, for very often the murmur is absent or is heard only while the patient assumes one particular position.

One of the conditions which is very apt to permanently damage the valves of the heart is acute endocarditis. Occurring frequently in children the disease is often not recognized. Some of the diseases which may cause this condition are rheumatism, chorea, scarlet fever and pneumonia.

Rheumatism is the most frequent cause and when occurring in children is very apt to be diagnosed as growing pains, cramps, etc., by the parents who see no necessity of calling a physician. The child does not feel very ill and generally wishes to be up and dressed, but if a careful examination should be made, some slight soreness might be found around one or more of the joints, together with small rheumatic nodules. These nodules are about the size of a split pea, and lie directly underneath the skin. They are best found by flexing the joint. There may be a slight rise of temperature.

In every case of this type the heart should be carefully examined, and if any endocarditis is present the patient should be confined to the bed until the fever has disappeared, and the heart has regained its normal condition.

The valves of the left side of the heart are chiefly affected although the cordae tidineae may be deformed and the heart muscle itself may be involved. Little wart like growths appear near the edges of the valves, these are composed of fibrin round cells and leucocytes. In severe cases these growths may break down and leave little ulcers which may so weaken the valves as to cause them to rupture. This condition is nearly always due to some form of infection. One of the most common of the germs found is the staphylococcus pyogenes aureus. The infection is usually benign, although there is a form accompanying septic diseases, chronic endocarditis, and anemia, called ulcerative endocarditis, in which there is great destruction of tissue. Infective emboli may be sent to the kidneys, lungs, liver, and other organs of the body. It is needless to state that this is a very fatal form of the disease.

The physical signs in this condition are often obscure. The heart is very apt to be enlarged and we may find the apex beat outside the nipple line and very forcible.

There may be a ventricular systolic murmur heard at the apex, but this is often absent, and the first sound is simply altered in character—roughened.

If we have as patients children who are suffering from rheumatism, or any of the other diseases given as etiological factors, and find a fresh rise in temperature, an increase in the pulse rate, and some dyspnoea, we should strongly suspect acute endocarditis.

With proper rest and care it is probable that the majority of cases would recover entirely, but otherwise a damaged valve results, which is very apt to cause trouble in later life.

Another condition which perhaps causes more serious valvular trouble than acute endocarditis, is chronic endocarditis. This disease is caused by high arterial tension from any cause. Among the more common causes might be mentioned gout, nephritis, and chronic lead poisoning. People who have to do hard manual labor or large eaters and drinkers are very apt to have high arterial tension, and so are very prone to develop this condition. A chronic inflammation

or fibrosis of the endocardium, which covers the valves results from this constant strain, and as the cause is still acting, the injury to the valve is apt to be progressive, while in valvular lesions, resulting from acute endocarditis, the condition is stationary with the exception of stenosis of the mitral valve, which is usually progressive even when the exciting cause has ceased to act.

The prolonged high arterial pressure produces a chronic inflammation of the endocardium covering the valves. It becomes thickened, loses its translucency, and in certain places undergoes a fatty degeneration. After this fibrous tissue appears, and as this contracts it produces thickening and deformity of the valve segments, the edges of which become round, curled and incapable of proper closure.

The chordae tendineae, and in extreme cases, the papillary muscles are affected by the sclerotic process. As the disease progresses, lime salts are deposited in the sclerotic tissue, so that at times the entire valve resembles a calcareous mass.

The left side of the heart is more frequently involved than the right, and the mitral valve more frequently than the aortic.

The most common of all valvular lesions is mitral insufficiency. In this condition the valve is so deformed that at each contraction of the left ventricle a certain amount of blood is regurgitated into the left auricle. This throws an extra strain upon this thin walled chamber, and also upon the right ventricle by increasing the pressure in the pulmonic circulation. The left auricle responds to the increased demands by hypertrophing, but the brunt of the extra work falls on the right ventricle, which must hypertrophy enough to force the blood through the lungs, in spite of the increased pulmonary pressure.

The left ventricle, which up to this time has escaped, now begins to show changes. At each diastole, when its muscular fibres are at a disadvantage, a large quantity of blood is thrown into it by the enlarged auricle. This causes a dilation of this chamber, but as it now has more work to do, supplying the arterial system and the reflux into the right auricle, its muscular walls must hypertrophy.

The hypertrophy of the right ventricle is the most important point in compensation, and may do its work for many years, but when this chamber fails and the tricuspid value is no longer able to perform its work, the pressure of the right ventricle is communicated to the venous system, which becomes engorged.

The diagnosis of this condition is usually easy. A ventricular systolic murmur is generally heard at the apex and transmitted to the axilla and back. Rarely this murmur is heard best at the pulmonic area, transmitted here by the left auricular appendix. This is a point to bear in mind, as these cases are usually incipient and amenable to treatment.

Generally speaking, the louder the murmur the better the prognosis, as it indicates a small stream of blood being regurgitated and a strong heart muscle.

When compensation begins to fail, the murmur may disappear and the heart sounds become confused.

If the mitral ring is much constricted we very often find an auricular systolic murmur at the apex, and as the tricuspid valve gives way, a ventricular systolic murmur will be heard over the xiphoid cartilage.

The pulse in mitral insufficiency is very apt to be irregular in both force and rhythm, and when we find a regular pulse we may be pretty sure that there is no great amount of regurgitation.

The accentuation of the pulmonic second sound is a very important sign, and one that should be carefully watched, as when this begins to fail it shows that the tricuspid valve has become incompetent. Then too it helps to differentiate between a murmur produced by mitral insufficiency and some of the functional and accidental murmurs.

The hypertrophy of the left ventricle displaces the apex downward, while hypertrophy of the right ventricle displaces it to the left. Consequently we find the apex somewhat downward and to the left. In extreme cases, the apex may be felt in the mid-axillary line.

In anemia and some of the toxemias, we may find dilation of the mitral ring—partially formed of muscular fibres—which prevents the valve segments from closing. This is termed relative insufficiency, and is diagnosed by a less intense murmur, not such a large degree of dilation and by the condition it accompanies.

Mitral stenosis is a slowly advancing disease and is often associated with mitral insufficiency. The valve segments may be fused together so

that the valve cannot open to its full extent, or the entire ring and valves may be one mass of calcareous tissue, in the center of which is a small slit.

Here again the left auricle and right ventricle have to do extra work in forcing the blood through the narrowed mitral orifice, and this causes a marked dilation of the left auricle, with more or less hypertrophy of its muscular fibre. The right ventricle must also hypertrophy so as to overcome the increased tension of the blood in the pulmonary system. In pure case of mitral stenosis the left ventricle does not enlarge, and may even diminish in size as it does not receive its normal amount of blood through the mitral opening.

Owing to the increase in the pulmonic pressure and to the hypertrophy of the right ventricle, the pulmonic valves close with a sharp click, usually before the aortic, so that the normal reduplication of the second sound at the base is accentuated.

Owing to the extreme hypertrophy of the right ventricle, it can often be felt pulsating to the right of the sternum, and its powerful impulse is often plainly visible at the lower part of the sternum, and to the left as far as the apex which it often forms.

In this disease we generally find an auricular systolic murmur, which is heard best at the apex. This murmur is not transmitted very far, although it may be heard in the back, and in character it is rough and rumbling and ends abruptly with the first sound of the heart.

Upon palpation a purring thrill may be felt at the apex, ending with a sudden sharp shock of the first sound. The murmur may occupy nearly all of the ventricular diastole, or the middle of diastole, or just the auricular systolic period.

Broadbent divides the disease into three stages, and this division is of great interest to me, as I have had the opportunity of watching a patient through them all, each stage being clearly marked.

During the first stage of the disease we hear the murmur, then the first sound followed by the second.

During the second stage the right ventricle has hypertrophied so that it occupies the whole of the anterior surface of the heart. The second sound which is produced mainly at the apex, by the closure of the aortic valves, will be inaudible, and we hear only the murmur followed by the first sound. Here we should be careful not to diagnose a mitral regurgitant murmur, followed by the second sound. A very easy thing to do unless we watch the carotid pulse.

During the third stage the heart becomes so weak that the murmur often disappears, and at the apex we hear nothing but the short tap, tap of the first sound. If at this time the tricuspid valve gives way, a ventricular systolic murmur will be heard over the xiphoid cartilage.

The pulse of mitral stenosis is of fairly high tension, long wave, and the artery is small and full between the beats. It is usually regular until the heart commences to fail, when it becomes very irregular in force and rhythm.

In aortic insufficiency we find one of the most dangerous of valvular diseases, sudden death may take place at any time.

Syphilitics and athletes are perhaps more apt to have this form of valvular disease than any other.

The aortic valve is incompetent and this allows a certain amount of blood to flow back into the ventricle. This and the blood coming from the auricle over-fill the ventricle, while its muscle fibres are in a state of relaxation and causes the chamber to dilate. As the left ventricle has more blood to send out, it must hypertrophy in order to do its work. The degree of dilation and hypertrophy of the left ventricle is greater in this valvular defect than in any of the other heart lesions. The apex is dislocated downward and to the left.

The pulse in this condition is quite characteristic. There is a quick, sharp impulse which immediately recedes, sometimes called the water-hammer pulse. This characteristic pulse is probably not caused by the reflex of blood from the aorta into the ventricle, but is probably due to a reflex dilation of the arterioles from stimulation of the ventricular walls by increased pressure. By elevating the arm the collapsing character of the pulse is brought out more prominently.

The arteries and arterioles over the entire body can be seen to pulsate owing to the hypertrophy of the left ventricle.

The murmur in this condition is a long blowing ventricular diastolic, and although sometimes heard over the aortic area, very often it is heard best over the sternum or in the third left costal cartilage.

If the murmur takes the place of the aortic second sound, we may feel confident that there is a considerable amount of regurgitation, but if the second sound is heard in the neck, and the murmur is loud, the prognosis is better. Sometimes we find an auricular systolic murmur at the level of the fifth rib, near the parasternal line, which is known as Flynt's murmur, and is caused by the regurgitating blood coming in contact with a leaflet of the mitral valve.

As compensation begins to fail, two groups of symptoms may come on. If the mitral valve gives way through dilation, and regurgitation takes place, all the long train of symptoms of mitral disease come into view. On the other hand if the muscle becomes weak it may not be able to supply enough blood to the systemic circulation, and symptoms of cerebral anemia or sudden death may take place.

The last and rarest form of valvular disease which we will take up is aortic stenosis. It accompanying murmur is very common but is generally due to other causes.

This condition is very often associated with aortic insufficiency.

The narrowing of the aortic opening causes a compensatory hypertrophy of the left ventricle, which displaces the apex downward and to the left.

As long as the left ventricle is able to perform its work, the patient may get along comfortably, but as soon as this chamber begins to weaken, and the mitral valve gives way, we get the same train of symptoms as are found in mitral disease.

The murmur in this condition is ventricular systolic in time, and hard and rough in character, it is heard best over the aortic area and transmitted to the vessels in the neck, and sometimes to the apex. This murmur often takes the place of the first sound at the base, and the second sound is usually weak, or its place is taken by a diastolic murmur.

A distinct systolic thrill is felt over the aortic area.

A murmur of this character heard at the base should not suggest aortic stenosis until all other possible conditions have been ruled out. Anemia, fevers, roughened orifice, aortitis, etc., may all cause a systolic murmur heard over this area.

In most of these cases, however, the two sounds at the base are distinct. The pulse of aortic stenosis is quite characteristic and is an important diagnostic sign. It is slow, retarded, small and regular.

A few years ago I was studying three or four cases of valvular disease, all of which had systolic murmurs at the base and at the apex. We were very sure that these were cases of mitral insufficiency combined with aortic stenosis. What was our surprise to find when the cases came to be autopsied that not one of them showed any contraction of the aortic orifice.

Time will not permit me to go into a discussion of the various symptoms and physical signs of failing compensation, but to my mind, here is where most of our work as physicians comes in. To be able by keeping a careful watch of the liver, lungs, digestive system, etc., to warn our patient in time to prevent a complete rupture of compensation, is most important.

DISCUSSION.

Dr. C. C. Perry.—I simply wish to say in the examination of the heart, much may be gained by requiring the patient to fill the lungs with air and hold it while the examination is made. With the aid of a good instrument and a good ear, you can easily detect those murmurs which are not discoverable by other means. Dr. Morton spoke of the lesions where there were no detectable murmurs. By the method just described, the lesions with no murmurs can easily be found. At least most of them.

CONSERVATISM IN SURGERY.*

BY

M. R. CRAIN, M. D.,

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True conservatism in surgery is progressive, not blindly following the dictum of precedent or an authority of the past, but that which in the practice of the art of surgery gives to each individual patient, in the light of present day knowledge of surgery, that treatment which gives them first, the best chance of life; second, good health instead of chronic invalidism; third, the preservation of the limbs and organs. It is so easy to follow old habits of thinking and speaking that most of us often speak of a treatment as conservative which would have been perfectly proper a few years ago, but in the light of present surgical knowledge would be procrastination. Of the many factors that have made true conservatism possible, by far the most important one is our present knowledge of the various sur-

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gical infections. When we think of the thousands of limbs that were formerly sacrificed because of compound fracture or badly lacerated soft parts, that are now nearly all saved by antiseptic treatment of the wounds, we realize the great conservation of life and limb by antiseptic treatment if applied early.

In external injuries, even if infection has already begun, we can generally arrest it because we can here use powerful antiseptics to destroy the infective agent. But in the various surgical infections that begin from within the cavities we can do nothing in most cases to sterilize the parts. And here I wish to emphasize the importance of early diagnosis in the internal surgical infections, and the importance of calling surgical aid while the infection is confined to one organ; not only is the mortality many times greater in the delayed operations, but the suffering and invalidism is much prolonged, and in many cases the patients left with a permanent disability.

A prompt operative interference in infections of the middle ear and mastoid is conservative, not only by limiting the impairment of the functions of the ear, but also saving many lives from being sacrificed by septic meningitis. Most of the infections of the neck are from the cavities, and the removal of diseased tonsils and adenoids and operations on the nasal septum when there is deviation enough to interfere with good drainage, is truly conservative, thereby diminishing the chances of pyogenic infections of the sinuses, ears and neck, as well as diphtheria and tubercular infections. The tubercular glands of the neck should be removed early when the infection is confined to the glands. If we get a pyogenic infection of the lungs or plura, the pus should be evacuated as early as possible, thereby limiting the damage to the lungs.

In the abdomen we have made the greatest advance in the past few years, mainly by the study of living pathology during early operations; but there are many cases on the border line, and in the present state of our knowledge we find many cases in which it is very hard to decide whether they should be treated medically or surgically.

A few years ago when there was a high death rate following appendectomy, there was a great difference in opinion in the profession about the treatment of appendicitis, many surgeons admitting that over eighty per cent. of primary cases would recover under medical treatment, and many general practitioners claimed ninety per cent. of recoveries without operation; the larger per cent. accounted for because the family physician saw a larger per cent. of light cases than men who do only surgery; but now many surgeons operate on hundreds of cases with a mortality of only a fraction of one per cent. I cannot conceive how any physician can claim that operating during the first twenty-four hours of an attack, or an interval operation is not conservatism. There is a difference of opinion whether it is best to operate during the attack or perform an interval operation. The risk may be a little greater in the early operation than an interval one, but the death rate following an operation the first twenty-four hours is not nearly as great as the death rate of those performed in the interval, plus the death rate of the previous attack. After the first day or two of a case of appendicitis, I think it is more conservative to treat the case medically and operate later. In the medical treatment we may exclude cathartics, except in those cases seen early, where the people will not consent to an operation. A dose of oil is of benefit in unloading the bowels before perforation has taken place, making it easier to keep the bowels quiet later. When there is a perforation and the system is suffering from shock from being overwhelmed with the toxines, we should not add to the depression by an operation and an anesthetic, any more than we should amputate a mangled limb when a person is suffering from severe shock. The indication here is to limit peristalsis and eliminate the toxines. Those of us who were in practice when the only treatment of appendicitis and its resulting peritonitis was by morphine, well remember the many cases that recovered under this treatment after a tedious illness, but we do not want to go back to that treatment when we have such a superior treatment as Ochsner's, which we can combine with Murphy's treatment. I think they two have done more to reduce the death rate in cases of septic appendicitis the past few years than all other surgeons, although I heard Dever say that Ochsner's paper had been responsible for more deaths than all the medical writings for the last twenty-five hundred years. I know of no treatment, the application of which has been misunderstood by so many as Ochsner's. He never advocated it to take the place of early operation, but only to bridge over bad septic cases that were not seen early.

The abdominal organ next in importance is the gall bladder, from a surgical standpoint, al-

though many persons have gall stones many years without any serious trouble. When we consider the large per cent. that have serious trouble from various causes, viz.; serious cholecystitis, gangrene, and perforation of the gall bladder or ducts, with the resulting septic peritonitis, impaction of stones in the ducts, and even cancer of the gall bladder, or a secondary disease of the pancreas on the one hand, with the resulting suffering, invalidism and death rate from these various complications, compared with the death rate of one-third of one per cent. from cholecystotomy, surely we must admit that the latter course is true conservatism.

Perforations of the stomach or intestines sometimes recover under expectant treatment, but there are none, I think, who will claim that the chances are but a small operation.

All benign growths, warts, moles, etc., should be removed as Keen and others have shown that such a large per cent. of benign growths degenerate into cancer, and if there is any doubt whether the growth is benign or malignant, have a frozen section made during the operation and do a radical operation if found malignant. If we wait till certain symptoms laid down in the books develop before deciding to operate, namely; palpable enlarged glands, involvement of muscles and skin, one might as well not operate. The great Gross said that he never cured a case of cancer of the breast by operation, while of all the cases of cancer of the breast operated on at the Johns Hopkins clinic, forty-seven per cent. remained well for three years or more, while of the cases operated on before a clinical diagnosis could be made, ninety-six per cent. remained well for the same period.

Cancer of the internal organs also has a precancerous stage, as Mayo has shown that fifty-four per cent. of cancers of the stomach operated on by him, started on an old ulcer, and others that probably did, make the number seventy-nine and one-half per cent. With such facts before us we see that the chronic gastric ulcer is frequently a pre-cancerous stage, and an operation at that time is prophylactic. When we consider that there are about twenty-five thousand cases of cancer of the stomach in this country, and the death rate under medical treatment is a hundred per cent., we see that the surgical treatment of chronic gastric ulcer is truly conservative. Whatever the ultimate results of excision of cancer of the stomach will be, we know there are cases alive from three to seven years after operation, and Mayo says the chances of permanent cure are as good as in cancer of the breast when operated early.

With improved methods of early diagnosis and a change in sentiment among physicians, so that cases will be turned over to the surgeons as soon as a probable diagnosis is made, we may expect to save the lives of many patients and give them several years of usefulness. I think we may expect much in the early diagnosis from gastroscopy. Jackson has reported seventy cases that he has examined with the gastroscope.

There is a prospect that we will have a blood test that will enable us to make an early diagnosis in internal cancer. As the early stages of cancer have no symptomatology we cannot expect a large per cent. of persons to submit to an exploratory incision, unless we can demonstrate that it is a surgical case. Munroe says of exploratory laparotomy: "Up to within a few years it was considered an opprobrium to resort to laparotomy for diagnosis. We are confident that experienced surgeons of the present time feel that the disgrace of not making incisions for confirmatory diagnosis is a much more frequent and lamentable one." Mayo says that we should make a surgical diagnosis before opening the abdomen; that is, be practically sure that it is a case for operation, but it is not always possible to make a pathological diagnosis, in fact he says it is not best to be too certain of our preoperative pathology, as we may sometimes have the same train of symptoms caused by an ulcer of the stomach or duodenum, or even chronic appendititis, each of which requires surgical treatment, but are very different from a pathological standpoint.

In conclusion we may say that we have nearly mastered the surgical infections, first by prevention in septic surgery, second by combating infection by early operation while the infection is still confined to the organ primarily infected. As many cancers have a pre-cancerous stage, we can prevent many malignant growths by removing all benign orice, warts, etc., and in all cases where there is a suspicion that malignant degeneration has begun have a frozen section made at the time of operation, and if the microscope shows cancer, perform a radical operation, removing lymphatics, &c., wide of the growth, and we will get many permanent cures of incipient cancer.

DISCUSSION.

Dr. Lyman Allen.—It is not easy to discuss a paper which one has not heard, and no doubt much of what I have to say has already been said, either in the paper or in its discussion.

In the first place "Conservatism" has at least two rather different meanings, one is "opposed to change and therefore often opposed to progress"; another is "preservative." While we may well be opposed to any change which does not give moderately sure promise of improvement, we certainly do not wish to see the practice of surgery opposed to progress. We all know that what was considered rashness ten years ago is now called conservatism. So I wish to consider "Conservative" as meaning "Preservative."

The judgment for or against surgical measures should lie with the auswers to these questions:—

(1) What procedure gives the best chance of preserving the *life* of the patient?

(2) What procedure gives the best hope of preserving the time, strength, and feelings of the patient, including his functions and his ability to earn his livelihood?

While each patient presents certain individualities which must be taken into consideration it is true that for many diseases we know the mortality under operative and under non-operative treatment and can therefore decide with which form of treatment the better chance of life lies. Having made the diagnosis, our advice in these cases is easy to give. It should be given without unnecessary delay, for the element of "*time*" in many of these cases is the determining factor in the prognosis. It is easy to "hope that the lump in the patient's breast is nothing serious" but by waiting until there is no possible doubt about the diagnosis, we would sacrifice many a woman's life. This is *not* conservatism in surgery.

Neither is it conservatism to postpone an operation which is a simple one under present conditions, when the chances are more than even that it will *have* to be performed later, when the operative difficulties will be greater and the risk to the patient also increased, such as in cases of recurrent appendicitis.

And again, when the risk to the patient is about equal under operative or non-operative treatment, and even when the immediate risk would be slightly higher under operative treatment, should we not advise a course that promises years of health, happiness, freedom from pain, and ability to do one's work in the world, instead of one which offers a life of invalidism, pain, or more or less helplessness?

The risk of an early fatal result under operation for a *few* patients is, in my opinion, more than outweighed by the certainty of great benefit to the vast majority of such cases. Take for example a case of hemorrhoids. You all know how happy and grateful such a patient is after operation. What a contrast to his former self! Is it not worth the very slight operative risk? Is not the pain, loss of time (and expeuse, too) of the patient who is operated upon, much less, in a few years, than that of the patient who refuses operation? Or the patient with hernia, harnessed to his truss and in danger of his life through unexpected strangulation, can he be compared to his brother who has had a successful operation for the same condition? And all surgeons know that the danger of these operations is slight and the chance of radical cure very good. The same line of argument can be followed in regard to severe cases of varicose veins, or prostatic hypertrophy, or a hundred other conditions. The operative risk is small, and the other considerations are all on the side of the operation.

True conservatism in surgery thus looks to the preservation, not of existing customs or methods, but of the patient and his health and happiness. And these are often best secured by what may seem to some men rather radical measures.

The question often must be decided by the general practitioner. He must make the diagnosis and must advise the patient. To do this intelligently he must be well versed in surgical prognosis. For every surgeon who is too rash in surgical matters (and thus fails to be conservative) there are a dozen—yes, a hundred—physicians, who are so timid in matters surgical, largely because they do not appreciate present results in the hands of skilful men, that they also fail to be truly conservative. If each of us were fully informed of the mortality and late results in the various surgical conditions, with and without operation, we should become really conservative, that is preservative of our patients and their interests.

Dr. H. H. Swift, Pittsford, Vt.—Listening to this paper has called to my mind two or three cases which I will speak of very briefly. Two of them were railroad cases. One was the case of a greenhand brakeman who got his forearm in between the bumpers and it was crushed. There was a certain amount of circulation in the hand. I wired the bones together. There were seven pieces. The muscles and tendons were crushed and I sewed muscles and tendons together. He went out of the hospital in three months. Came back, however, for dressing during the six months subsequently. Five years afterwards I saw him and he seemed to have perfect use of the hand. I don't know what muscle was acting on each finger. There was only one thing he could not do that he did before the accident, and that was play the fiddle. Another case was that of a boy whose foot and ankle were run over by a small car at the quarry. The car ran across his little toe and the ankle. The bones of the ankle were dislocated and more or less broken. I found on pinching the great toe, there was a little circulation. The case seemed hopeless, but after eight months I got a part of two toes and the ankle joint in good shape. The case went out of my sight. Seven years afterwards I was present at a baseball game. One boy went around the bases flying. I enquired who he was and found out much to my surprise that he was this very boy.

"If we had through the misfortune of war, or the sudden rise of pestilence, or through some awful calamity, the destruction of life that annually takes place on account of the spread of this disease (tuberculosis) we should be appalled and mass meetings would be held in every community and demand would be made that the most urgent measures should be adopted. It is only because we are accustomed to this waste of life and are prone to think that it is one of the dispensations of Providence that we go on about our business, little thinking of the preventive measures that are possible."—Charles E. Hughes.

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

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BURLINGTON, VT., APRIL 15, 1909.

EDITORIAL.

The *Bulletin of the Beacon Hill Hospital Staff* is the title of a publication issued quarterly by the staff of the Beacon Hill Hospital of Manchester, N. H., the first number of which appeared January 1. It is compiled from writings of the members of the staff, who choose topics covering the line of work in which they are most interested. It is stated that case reports, epitomes of interesting papers and lists of the newer editions of books will be published as occasion and opportunity arise. If the succeeding numbers are as good as the first the *Bulletin* will be a valuable addition to the medical literature. We welcome it and wish its publishers, the Beacon Hill Hospital Staff, the best of success in their undertaking.

Our recent legislature passed a number of acts of interest to the medical profession of the state. Many of the measures are of importance and in most instances the results are commendable.

One act which, however, is not so worthy of commendation is the act to amend Section 3757 relating to appeals from commitment of insane persons printed in this issue.

We believe that the law should provide for an appeal from the decision of the two physicians making the certificate of insanity, but we also believe that the appeal should be taken to a higher authority than the one making the decision. It should be evident that a jury of laymen, selected as this act provides, are not better qualified or prepared to judge of the sanity of a case than the two physicians making the certificate.

The legislature lost a chance here to initiate a proceeding which would have had a far-reaching effect on medical evidence not only in these cases but in any legal case where expert medical knowledge plays a part.

If the appeal were made to a commission of experts in insanity instead of a lay jury more satisfactory results would obtain as regards the question of the sanity of the person and at a considerable saving to the state in a financial way.

The passage of this bill and of the optometry bill so-called make it evident that the state society should stand back of its representatives in their efforts to defeat improper legislation.

A bill is now before Congress for the reorganization of the cabinet by grouping all the bureaus and divisions having to do with public health now scattered among the various departments in one bureau which will be put under one of the existing main divisions presided over by a cabinet officer. This measure grows out of the agitation for a department of health represented in the cabinet by a secretary of public health which has been fostered by the various sanitary organizations of the country for some time and which was finally forced as a political

issue by the American Health League, an organization formed for the avowed purpose of securing public health legislation. Following the lead of President Roosevelt expressed in the following letter the league gave up the idea of a new department and decided to be content for the present with a reorganization.

"I sent you my public letter. I wish to put in one proviso about its being used, however. I emphatically disapprove of a Cabinet officer being created at the head of a Department of Health, and I would not be willing to have my letter used to create feeling for a new Cabinet officer to be at the head of a Department of Health. So please do not use my letter at all if your body conclude to agitate for a Department of Health. I believe that we could with advantage have a Bureau of Health, to be put under one of the existing departments, but we need no additional Cabinet officers. On the contrary, they would be a disadvantage. While we do most urgently need a rearrangement of the bureaus and divisions of the present Cabinet, we also need to have every executive officer of the Government put under some Cabinet officer. I am utterly against the creation of any independent bureau not under a Cabinet officer."

The president further emphasized the importance of this matter in a message to Congress in 1908 and in a public address delivered at Provincetown and later in the report of the commission for the conservation of national resources transmitted by him to Congress.

1908 MESSAGE.

"There is a constantly growing interest in this country in the question of the public health. At last the public mind is awake to the fact that many diseases, notably tuberculosis, are national scourges. The work of the state and city boards of health should be supplemented by a constantly increasing interest on the part of the National Government. The Congress has already provided a bureau of public health and has provided for a hygienic laboratory. There are other valuable laws relating to the public health connected with the various departments. This whole branch of the Government should be strengthened and aided in every way."

"It is highly advisable that there should be intelligent action on the part of the nation on the question of preserving the health of the country. Through the practical extermination in San Francisco of disease-bearing rodents our country has thus far escaped the bubonic plague. This is but one of the many achievements of American health officers, and it shows what can be accomplished with a better organization than at present exists. The dangers to public health from food adulteration and from many other sources, such as the menace to the physical, mental and moral development of children from child labor, should be met and overcome. There are numerous diseases, which are now known to be preventable, which are, nevertheless, not prevented. The recent International Congress on Tuberculosis has made us painfully aware of the inadequacy of American public health legislation. This nation cannot afford to lag behind in the world-wide battle now being waged by all civilized people with the microscopic foes of mankind, nor ought we longer to ignore the reproach that this government takes more pains to protect the lives of hogs and of cattle than of human beings. The first legislative step to be taken is that for the concentration of the proper bureaus into one of the exisiting departments. *I therefore urgently recommend the passage of a bill which shall authorize a redistribution of the bureaus which shall best accomplish this end.*"

THE PROVINCETOWN SPEECH.

"I also hope that there will be legislation increasing the power of the National Government to deal with certain matters concerning the health of our people everywhere; the federal authorities, for instance, should join with all the state authorities in warring against the dreadful scourge of tuberculosis. I hope to see the National Government abreast of the foremost state governments."

CONSERVATION COMMISSION REPORT.

"Since the greatest of our national assets is the health and vigor of the American people, our efficiency must depend on national vitality even more than on the resources of the minerals, lands, forests, and waters.

"The average length of human life in different countries varies from less than 25 to more than 50 years. This span of life is increasing wherever sanitary sciences and preventive medicine are applied. It may be greatly extended.

"Our annual mortality from tuberculosis is about 150,000. Stopping three-fourths of the loss of life from this cause, and from typhoid and other prevalent diseases, would increase our average length of life fifteen years.

"There are constantly about 3,000,000 persons seriously ill in the United States, of whom 500,000 are consumptives. More than half this illness is preventable.

"If we count the value of each life lost at only $1,700, and reckon the average earning lost by illness at $700 a year for grown men, we find that the economic gain from mitigation of preventable disease in the United States would exceed $1,500,000,000 a year. This gain, or the lengthening and strengthening of life which it measures, can be had through medical investigation and practice, school and factory hygiene, restriction of labor by women and children, the education of the people in both public and private hygiene, and through improving the efficiency of our health service, municipal, state, and national."

The pressure brought to bear through the league and these public utterances of the chief executive forced health planks into the platforms of the political parties as follows:

The Republican National platform at Chicago contains this plank:

"We commend the efforts designed to secure greater efficiency in National public health agencies and favor such legislation as will effect this purpose."

The Democratic National platform adopted at Denver, even more forcibly stated:

"We advocate the organization of all existing National public health agencies into a National bureau of public health, with such power over sanitary conditions connected with factories, mines, tenements, child labor, and other such subjects as are properly within the jurisdiction of the Federal Government and do not interfere with the power of the States controlling public health agencies."

The Independence League Party adopted a broader plank in favor of a National Department of Health.

That the Republican plank is interpreted by President Taft to mean a reorganization and transfer of the present bureaus is shown by the following quotation from his message of acceptance:

"I have long been of opinion that the various agencies of the national government established for the preservation of the national health, scattered through several departments, should be rendered more efficient by uniting them in a bureau of the government under a competent head, and that I understand to be, in effect, the recommendation of both parties."

This bill now awaits in the House of Representatives the necessary action to become a law after ratifying action is had by the Senate. It provides for the transfer of health bureaus to the department of the interior adding immensely to the importance of this department and virtually making it the department of health. While we personally believe that the health of the nation is worthy of a separate department presided over by a secretary of public health we are emphatically in favor of accepting the best that can be secured now and strongly advise every good citizen to use all the influence in his or her power to promote the passage of this bill.

WARNING.

Editor of the Vermont Medical Monthly:—

Parties, including the proprietor, a Mr. Oban of the Oban Medicine Company of Nashua, N. H., are traveling through the state selling their medicine and guaranteeing to cure for a certain compensation.

Physicians are hereby notified that these people *and all others* who make such guarantees personally, in connection with the sale of their goods are assuming the prerogative of the registered physician and under Section 5, Act 151, 1908, are liable to prosecution.

We hope there will be less indifference on the part of physicians in the state in noting such matters and making report to the Board of Registration, if they have evidence of such transactions. We are after them. I understand that the above mentioned parties have been doing an extensive business throughout the state. I think they are also liable to prosecution under Act 33, 1908 for peddling without a license and not having complied with the U. S. Pure Food Law. They have been notified that they must cease the business as it has been conducted, and we should like to know if they do it.

W. Scott Nay,
Secretary.

Underhill, Vt., April 1, 1909.

1424 E. Ravenswood Pk.,
Chicago, Ill.,
March 10, 1909.

Vermont Medical Monthly, Editor,
Burlington, Vermont.

Dear Doctor:—

I am collecting material for a paper upon atropine as a hemostatic, and would be obliged to any of your readers who would send me notes of their experience with this remedy. I am particularly anxious to receive adverse reports, as well as those favoring the remedy.

Thanking you for the courtesy of inserting this note, I remain

Very sincerely yours,
William F. Waugh.

NEWS ITEMS.

Dr. T. F. Rich has recently opened an office in Nashua, N. H.

Dr. Thomas Dougherty has been elected mayor of Somersworth, N. H.

Dr. C. O. Smith of Hookset, N. H., and Mrs. Carrie Louise Johnstone of Lebanon, N. H., were married March 22.

The Anti-Tuberculosis Association of Gardner, Mass., held an exhibit with addresses during the week of March 10 to 16.

Dr. Frank W. Searles of Portland, Me., has been nominated by the governor to succeed Dr. William J. Maybury of Saco as a member of the Maine board of medical registration.

The eleventh annual meeting of the American Proctologic Society will be held at Atlantic City, N. J., June 7 and 8, 1909. Haddon Hall will be the headquarters and place of meeting.

A meeting of the St. Albans (Vt.) Clinical Society was held at the home of Dr. A. O. Morton, April 5. Case histories were reported by the members and refreshments were served.

Dr. C. L. Stewart of Randolph, Vt., observed the anniversary of his eightieth birthday, April 2. Members of the medical profession of Randolph and vicinity were present. Dr. Stewart has been in active practice fifty-five years and is well and energetic.

Lecture and Laboratory courses in Tropical Medicine, Public Health and Sanitation, including school and factory inspection, have been inaugurated at the New York Post-Graduate Medical School and Hospital, and will be given with the co-operation of the U. S. Army and U. S. Navy Medical Corps.

The March meeting of the Burlington and Chittenden County Clinical Society was held at Burlington, Vt., March 25. The paper of the evening, "Some Points on the Early Diagnosis of Malignant Diseases of the Breast and of the Uterus with Treatment, including Cooley Serum," was presented by Dr. S. E. Maynard. This was discussed by Drs. Allen, Clark and Wheeler.

At the annual meeting of the Elliot City Hospital of Keene, N. H., the following staff was elected for the ensuing year: consulting physicians, Drs. George W. Gay and John W. Elliot of Boston and Alfred Worcester of Waltham, Mass.; visiting physicians, Drs. Gardner C. Hill, J. B. Hyland, H. K. Faulkner, John D. Proctor, C. S. Walker, F. M. Dinsmoor, I. J. Prouty and E. A. Tracy, all of Keene.

A meeting of the Washington County (Vt.) Medical Society was held Tuesday evening, March 9, at Barre. A paper, "The Physician and Quarantine," was read by Dr. J. W. Jackson. This was discussed by Drs. Bailey, Ellis, Winch and Stickney. Dr. J. P. Gifford presented a paper, "Appendicitis—When to Operate," which was discussed by Drs. Bidwell, Burr, E. H. Bailey and Goodrich.

Heaton Hospital of Montpelier, Vt., has been made residuary legatee of the estate of Mrs. Susan B. Shumway, who died two years ago. It is thought the hospital will receive about $5,000. Mrs. Shumway was at one time a patient there and leaves this money to the hospital in recognition of the care she received there. The gift is not hampered by conditions but is left to the trustees to expend as they think best.

A notable decision of interest to doctors was rendered in the Supreme Court of Massachusetts recently. Dr. Henry V. McLaughlin employed Dr. F. R. Talty as an assistant under an agreement that Dr. Talty was not to reengage in the practice of medicine in Brookline during the lifetime of Dr. McLaughlin after leaving his employ. The court holds that the contract is valid and grants an injunction restraining Dr. Talty from practicing medicine in Brookline while Dr. McLaughlin lives.

The semi-annual meeting of New Hampshire Surgical Club was held at Nashua, March 18. The president, Dr. Augustus W. Shea, entertained the club at the Tremont House, where the following program was carried out: A Survey of Our Present Knowledge of Pancreatitis, by Dr. J. M. Gile. Discussion opened by Dr. H. L. Smith of Nashua; The Vaccine Treatment of Cancer, by Dr. A. S. Wallace of Nashua. Discussion opened by Dr. Wm. E. Reed of Nashua; Acute Gastric Hemorrhage and Its Treatment, by Dr. F. B. Lund. Discussion opened by Dr. B. G. Moran of Nashua. Previous to this meeting from 9 a. m. to 12.30 p. m., a clinic was held at Nashua Emergency Hospital by Drs J. M. Gile of Hanover, F. B. Lund of Boston, and members of the club.

TUBERCULOSIS EXHIBITION.

The tuberculosis exhibition prepared by the State Board of Health and which is being shown at various places in the state, owes its existence to an act of the recent legislature which allows the board to expend two thousand dollars ($2,000) annually in an educational campaign throughout the state, against tuberculosis. The exhibition is designed to portray as graphically as possible to the laity, the factors in the causation

and spread of the disease, to show its nature and distribution, and to teach the methods of preventing and combating it. It has been the aim to make everything as simple and readily understood as possible and models have been used largely to illustrate the features that are desired to be shown. There is for example, a model house, similar to an ordinary farmhouse, illustrating some of the things that render a room sanitary or unsanitary, and there are models of porches that can be readily built adjacent to any house, and used as sleeping rooms. There is a model tent, of the kind used in the Ray Brook sanatorium, for the use of the patients, and a full sized window tent showing how one can get the benefit of fresh, pure air in any room, during sleeping hours, while avoiding the discomforts of a too cold room.

Another feature is a collection of specimens from various parts of the bodies of cattle that have been killed after the tuberculin test, showing how the disease may affect the different organs. After seeing these, one is apt to think more seriously of the possibility of transmitting disease through the medium of the food. A series of skiagraphs of the human chest shows how this can be used in discovering signs of consumption, and also illustrates a type of photograph that is new to many people. Then, too, there is a clock that strikes as frequently as a person dies, on an average, from this disease, in the United States, and the frequency with which it does strike is rather surprising. These, and other features occupy the floor space, while the walls are covered with charts, maps, photographs, pictures, and cards bearing bits of advice, instruction, or warning, bearing on the various phases of the disease.

While the main purpose of the exhibition is to give instruction, it is hoped that it may be given in an interesting manner, and the exhibition is accompanied by a phonograph that gives forth popular musical selections, interspersed with talks upon the subject of consumption. There is also a stereopticon with slides illustrating the different features of the great question of tuberculosis, and at every town at least two lectures, illustrated by the lantern views, are given by some one who is recognized as well qualified to speak upon this subject.

The exhibit has been shown at Burlington, where it was attended by over 2,500 people and in St. Albans, Newport, Montpelier and Barre. This exhibition will be held in several other towns during the spring and at the fairs during the fall.

OBITUARY.

Dr. J. P. Fessenden died at his home, Salem, Me., March 26, aged 78 years.

Dr. Jesse Reynolds died at his home, Potsdam, N. Y., February 19, aged 85. Dr. Reynolds graduated from the Castleton Medical College in 1847.

Dr. Charles E. Rider died at his home, Rochester, N. Y., January 31, aged 70 years. Dr. Rider graduated from the Medical Department, University of Vermont in 1863.

Dr. Philo Farnsworth died at his home, Clinton, Iowa, February 14, aged 79 years. Dr. Farnsworth graduated from the Medical Department of the University of Vermont in 1858.

Dr. Allen Burdick died in Boston after a brief illness, aged 52 years. Dr. Burdick was born in St. Albans, Vt., and was a graduate of the high school of that town and of Dartmouth Medical College.

Dr. Charles O. Farley died at his home, Glens Falls, N. Y., February 22, aged 77 years. Dr. Farley was a graduate of the University of Vermont Medical Department, class of 1859 and was assistant surgeon in the army during the civil war.

Dr. Joseph C. Moore of Laconia, N. H., died at his home, March 19, aged 64 years. Dr. Moore was at one time a notable figure in New Hampshire politics and finance. His failure came during the panic of 1893 and since then he had practiced his profession in Laconia.

William McCollom, M. D., died at his home, Brooklyn, N. Y., February 23, from acute bronchitis and pulmonary edema, aged 77 years. Dr. McCollom graduated from the Castleton Medical College in the class of 1853, and was president of the Vermont State Medical Society from 1865 to 1866.

Dr. James H. Hamilton of Richford, Vt., died at his home, March 14, of internal injuries resulting from a fall a few weeks ago, coupled with Bright's disease. Dr. Hamilton was born in Berkshire, February 29, 1836. He was edu-

cated at the public schools and the Castleton Medical College from which he graduated in 1859. Until ill health forced him to do less work he was a physician of wide practice. He had held many town offices, represented the town in the Legislature, and was health officer at the time of his death. He was a member of the American Medical Association and for many years was secretary of the Vermont State Board of Health. He is survived by his wife and two sons, Dr. James M. Hamilton of Rutland and Jay Hamilton of Farnham, Que.

ACTS OF MEDICAL INTEREST PASSED BY THE VERMONT LEGISLATURE, SESSION 1908.

AN ACT TO AMEND SECTION 3757 OF THE PUBLIC STATUTES, RELATING TO APPEALS FROM COMMITMENT OF INSANE PERSONS.

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. Section 3757 of the Public Statutes is hereby amended so as to read as follows:

Section 3757. A person whose insanity is so certified or any next friend or relative of such person, may appeal from the decision of the physicians so certifying to such person's insanity, to the probate court for the district in which such person resides, or in which the hospital for the insane to which he is committed is situated. Such appeal shall be noted on the certificate and shall be made by petition to such court setting forth the certificate and praying for hearing by such court on appeal. Notice of such appeal shall be given in such manner as the court may direct to the state's attorney of the county, who shall appear and represent the interests of the state. The court shall cause a jury of twelve citizens of the county to be summoned by a sheriff or deputy sheriff designated for that purpose by the court. Such jury shall be drawn as a jury in a suit before a justice of the peace is drawn, except that only six persons may be challenged. Such jury shall, under the supervision of the court, hear the evidence and counsel, and by verdict find whether the person is insane. If the jury finds the person insane, the court shall certify the verdict and thereupon such person may be committed and detained in a hospital for the insane as the law provides. A copy of such certificate shall be filed by the committing officer with the superintendent of the institution to which such person is committed. If the jury shall find that such person is not insane, the court shall vacate the certificate of the physicians. The probate court shall keep a record of trials of appeals under this section. The jurors and officers acting under the provisions of this section shall receive the same pay as for like service in a justice court.

SEC. 2. Any person detained at any hospital for the insane in this state at the time this act takes effect shall be entitled to an appeal to the probate court and to trial thereon, as provided in section 3757 of the Public Statutes, as amended by section one of this act.

SEC. 3. From the verdict, certificate and judgment of the probate court, under the provisions of this act, an appeal may be taken to the county court as is provided in section 2973 of the Public Statutes, and proceedings thereupon had as provided in sections 2975, 2983, 2984, 2986, 2987, 2988 and 2989 of the Public Statutes, but, pending such appeal, the person whose insanity is so found and certified shall be and remain committed. No appeal shall be granted in case the verdict of the jury in the probate court is that the person is not insane.

Approved December 11, 1908.

AN ACT TO APPROPRIATE MONEY FOR REPAIRS AND IMPROVEMENT OF THE STATE HOSPITAL FOR THE INSANE.

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. The sum of five thousand dollars is hereby appropriated for the Vermont state hospital for the insane, for the purpose of adding enclosed piazzas, making the criminal insane wards more secure, and such other changes, repairs and purposes as the trustees of said institution may determine. The auditor of accounts is hereby directed to draw an order for said sum in favor of the trustees of said institution. Acts done and moneys expended under the provisions of this act shall be with the approval of the governor.

SEC. 2. This act shall take effect from its passage.

Approved January 9, 1909.

AN ACT TO PROVIDE FOR THE INSPECTION OF MILK.

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. No person carrying on the business of selling, supplying or delivering milk or cream from house to house shall sell, supply or deliver milk or cream whether produced from cows owned by him, or in his possession, or under his control, or purchased by him for sale from other dairies, to the inhabitants of the state unless he has procured a license therefor from the board of health of the town in which such milk is sold, which is hereby authorized to issue licenses under this act. Before granting such license, the state board of health, or their authorized agents, or said local board of health, shall make, or cause to be made, a thorough inspection and examination of the cows producing such milk or cream, of the barns, stables and premises where such cows are kept, of all pails, cans and measures used in connection with such business, and of the neatness and cleanliness with which such milk or cream is obtained and dispensed. Such licenses shall not be granted unless such cows are in a healthy condition, nor unless the barns, stables, premises and utensils used in connection therewith are in good sanitary condition nor unless such milk and cream is obtained and sold in a neat and cleanly manner and if the state board of health certify to the board of health of any town that a person named therein should not be granted a license, a license shall not be granted such person.

No person who shall incidentally sell or furnish to his neighbors milk or cream from his private dairy shall be construed to be carrying on the business of selling or supplying milk or cream within the meaning of this act.

SEC. 2. Such license shall be for a term of one year, unless sooner revoked by said board for just cause, and the fee for such license shall be two dollars, to be retained by said board for its services under this act.

SEC. 3. The local board of health shall, at least semi-annually, send to the state laboratory of hygiene, for examination, samples of milk or cream from the herd of each party who has obtained a license, and said license shall allow said board to take such samples whenever they desire. A person who violates a provision of this act shall be fined not more than fifty nor less than five dollars.

SEC. 4. This act shall take effect April 1, 1909.

Approved January 9, 1909.

AN ACT TO PREVENT THE SPREAD OF BOVINE TUBERCULOSIS BY CREAMERIES.

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. A public creamery which returns to its patrons skim milk or buttermilk shall, before returning the same, thoroughly sterilize or pasteurize the same according to regulations to be formulated by the state board of health and the cattle commissioner.

SEC. 2. The cattle commissioner shall have such regulations printed at the expense of the state, and shall before April 1, 1909, mail a copy of the same to each creamery in the state.

SEC. 3. A creamery receiving milk from three or more patrons shall be a public creamery within the meaning of this act.

SEC. 4. A person who patronizes a creamery located outside this state shall bring no skim milk or buttermilk into this state which has not been thoroughly sterilized or pasteurized.

SEC. 5. A person, company or corporation, who wilfully violates any of the provisions of this act shall be fined not to exceed fifty dollars.

SEC. 6. Section 2 of this act shall take effect from its passage, and the remainder of the act shall take effect May 1, 1909.

Approved January 28, 1909.

AN ACT TO AMEND SECTIONS 5411, 5416, 5433 AND 6166 OF THE PUBLIC STATUTES, RELATING TO PUBLIC HEALTH.

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. Section 5411 of the Public Statutes is hereby amended so as to read as follows:

Section 5411. Said board shall organize by electing a president and treasurer, and shall appoint a secretary who shall be a reputable practicing physician of this state, who shall hold office until his successor is appointed, and shall be the executive officer of said board. Said board may also appoint a sanitary engineer and inspector, who shall render such service as the board may require from time to time. The compensation of the secretary and the engineer and inspector shall be determined by said board, subject to the approval of the governor. Upon proper vouchers approved by the president and treasurer of said board, the auditor of accounts shall draw orders in payment of said secretary and engineer and inspector from any funds not otherwise appropriated, which payment shall not be computed as a part of the appropriation provided by section 6166 of the Public Statutes.

SEC. 2. Section 5416 of the Public Statutes is hereby amended so as to read as follows:

Section 5416. Said board shall, when necessary, issue to local boards of health its regulations as to the lighting, heating and ventilation of school houses, and shall cause sanitary inspection to be made of churches, school houses and places of public resort, and make such regulations for the safety of persons attending the same as said board deems necessary. Public buildings now standing or hereafter erected shall conform to the regulations of said board in respect to sanitary conditions and fire escapes necessary for the public health and for the safety of individuals in such public buildings. A person, corporation or committee intending to erect a public building shall submit plans thereof showing the method of heating, plumbing, ventilation and sanitary arrangements to said board, and procure its approval thereof before erecting such building.

SEC. 3. Section 5433 of the Public Statutes is hereby amended so as to read as follows:

Section 5433. The state board of health shall appoint a health officer for each town, and the secretary of said board shall give him a certificate of appointment. Said health officer shall be a resident in the town for which he acts. Said board may appoint one or more deputy health officers for a town upon written request of the local board of health, but such deputy shall only have authority to issue certificates of permission for the burial, entombment or removal of dead bodies.

Approved December 2, 1908.

AN ACT TO AMEND SECTION 5427 OF THE PUBLIC STATUTES, RELATING TO THE APPROPRIATION FOR THE LABORATORY OF HYGIENE, AND REPEALING SECTION 5477 OF THE PUBLIC STATUTES.

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. Section 5427 of the Public Statutes is hereby amended so as to read as follows:

Section 5427. The sum of fifteen thousand dollars is hereby annually appropriated to be expended under the direction of the state board of health in paying the expenses of the laboratory of hygiene incurred under the provisions of the second, third and fourth preceding sections, and also in paying the expenses incurred under the provisions of chapter two hundred twenty-six; and such expenses shall not exceed fifteen thousand dollars in any year.

SEC. 2. Section 5477 of the Public Statutes is hereby repealed.

SEC. 3. This act shall take effect from its passage.

Approved January 13, 1909.

AN ACT IMPOSING CERTAIN DUTIES ON THE STATE BOARD OF HEALTH.

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. The work heretofore devolving upon the tuberculosis commission, created by No. 142 of the acts of 1904, and continued by No. 167 of the acts of 1906, shall hereafter be performed by the state board of health. The said board shall conduct a campaign of education throughout the state regarding the best known methods of preventing and limiting the spread of tuberculosis, by modern sanitary precaution.

SEC. 2. The secretary of the board is hereby authorized to employ such assistants, clerical or otherwise, as may be necessary, at the expense of the state; but the entire expense for services, expenses and assistants in any one year shall not exceed two thousand dollars.

SEC. 3. The auditor of accounts shall draw an order for expenses under this act, on bills approved by said board.

SEC. 4. This act shall take effect from its passage. Approved December 2, 1908.

AN ACT TO REPEAL SECTIONS 5457, 5458, 5459 AND 5460 OF THE PUBLIC STATUTES, RELATING TO THE PREPARATION, BURIAL OR REMOVAL OF DEAD BODIES, AND VESTING CERTAIN POWERS RELATIVE THERETO IN THE STATE BOARD OF HEALTH.

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. Sections 5457, 5458, 5459 and 5460 of the Public Statutes are hereby repealed.

SEC. 2. The state board of health is hereby authorized to make such rules and regulations for preparation, burial and transportation of dead bodies of human beings as shall by them be deemed necessary.

SEC. 3. This act shall take effect from its passage. Approved December 8, 1908.

AN ACT TO REGULATE THE SANITATION OF SLAUGHTER HOUSES.

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. The state board of health is hereby empowered to make and enforce such regulations as it deems best for the purpose of controlling the sanitation of slaughter houses and other places where meat and meat products are prepared and kept, either for sale or storage.

SEC. 2. All acts and parts of acts inconsistent with this act are hereby repealed.

SEC. 3. This act shall take effect from its passage. Approved January 22, 1909.

AN ACT TO PROVIDE FOR THE PURCHASE AND DISTRIBUTION OF ANTI-TOXIN.

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. The state board of health is hereby authorized to purchase anti-toxin for the treatment of diphtheria, and to distribute the same free of charge, upon application therefor by physicians in regular standing, under such rules and regulations as said board may prescribe; and the expense thereof shall be paid by an order drawn by the auditor of accounts, upon vouchers duly approved by said board.

A person selling or disposing of any anti-toxin purchased or distributed under the provisions of this act for personal gain shall be fined not more than fifty dollars or not less than ten dollars. Justices of the peace and municipal courts shall have concurrent jurisdiction of offenses under this act.

SEC. 2. This act shall take effect from its passage. Approved December 3, 1908.

AN ACT TO AMEND CHAPTER 226 OF THE PUBLIC STATUTES, RELATING TO FOOD AND DRUGS.

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. Section 5466 of the Public Statutes is hereby amended so as to read as follows:

Section 5466. No person shall sell, offer or expose for sale an adulterated or misbranded food, drug or substance, to be used for medicine, food or drink for man or domestic animals.

SEC. 2. Section 5475 of the Public Statutes is hereby amended so as to read as follows:

Section 5475. A person who fraudulently adulterates or misbrands for the purpose of sale an article of food, drink, drug or medicine, as defined in this chapter, shall be imprisoned not more than one year or fined not more than four hundred dollars, and the articles so adulterated or misbranded shall be forfeited and destroyed under the direction of the court. A person who sells or offers for sale an article of food, drink, drug or medicine, which is adulterated or misbranded, or any kind of diseased or unwholesome provisions, as defined in this chapter, shall be imprisoned not more than one year or fined not more than four hundred dollars, and the articles so adulterated or misbranded, or such diseased or unwholesome provisions, shall be forfeited and destroyed under the direction of the court.

SEC. 3. Section 5478 of the Public Statutes is hereby amended so as to read as follows:

Section 5478. A member of the state board of health, local health officer, director, chemist or inspector of state laboratory of hygiene may inspect the carcasses of slaughtered animals intended for food, and meat, fish, vegetables, produce, fruit or provisions found in his town, and for such purpose may enter any building, enclosure or other place in which such carcasses or articles are stored, kept or exposed for sale. If such carcasses or articles are designated for food for man, and are found tainted, diseased, corrupted, decayed, unwholesome, or from any cause unfit for food, the local board of health shall seize the same and cause it to be forthwith destroyed, or disposed of otherwise than for food.

SEC. 4. Section 5479 of the Public Statutes is hereby amended so as to read as follows:

Section 5479. A person who doubts the purity or genuineness of an article of food or drug which he has purchased, may, at his own expense, send a sealed sample of it to the state laboratory of hygiene for inspection. If, upon examination, such article appears to be adulterated or misbranded, the state board of health may obtain a certified sample of it, and if such sample appears to be adulterated, said board shall immediately begin proceedings against the vendor.

SEC. 5. Section 5480 of the Public Statutes is hereby amended so as to read as follows:

Section 5480. A person offering or exposing for sale a drug or article of food within the meaning of this chapter, shall furnish to a member of the state board of health, a local health officer or a director, chemist or inspector of the state laboratory of hygiene, who applies for the same, and tenders its value in money, a sufficient sample for the purpose of analysis of such drug or article of food.

SEC. 6. Section 5481 of the Public Statutes is hereby amended so as to read as follows:

Section 5481. The analyst before commencing the analysis of the sample shall, whenever possible, reserve a part thereof, which shall be sealed; and, in case of a complaint or indictment, a part of the reserved portion of such sample alleged to be adulterated shall, upon application, be delivered to the defendant or his attorney, and the other part to the secretary of the state board of health.

SEC. 7. Section 5483 of the Public Statutes is hereby amended so as to read as follows:

Section 5483. A person who sells or offers to sell or keeps with intent to sell for food purposes, the flesh of any animal or fowl which died or was killed when diseased, or the flesh of a calf which was less than three weeks old or weighed less than fifty pounds, dressed weight, when killed, or a person who

ships out of this state, for food purposes, the flesh of any animal or fowl which died or was killed when diseased, or the flesh of a calf which was less than three weeks old when killed, shall be imprisoned not more than one year or fined not more than three hundred dollars, or both. The possession of any such flesh dressed or packed in a manner suitable for sale or use as food, shall be prima facie evidence of the intention to sell the same, or to ship the same out of the state, for use as food.

SEC. 8. Section 5491 of the Public Statutes is hereby amended so as to read as follows:

Section 5491. A person who in any way interferes with a member of the state board of health, a local health officer, or the director, chemists or inspectors of the state laboratory of hygiene, in the performance of their duties under this chapter, shall be fined not more than fifty dollars for the first offence and, for each subsequent offence, shall be fined one hundred dollars.

SEC. 9. The state board of health shall have and may, in its discretion, exercise all the power and authority in each town, city and village which by law is given to the local board of health; and the executive officer of the state board of health may likewise exercise all the power and authority of a local health officer, anywhere in the state.

Approved December 3, 1908.

AN ACT TO AMEND SECTION 5473 OF THE PUBLIC STATUTES, DEFINING MISBRANDED DRUGS.

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. Section 5473 of the Public Statutes is hereby amended so as to read as follows:

Section 5473. For the purpose of this chapter, a drug shall be deemed to be misbranded if it is an imitation of or offered for sale under the name of another article; or if the contents of the package as originally put up have been removed, in whole or in part, and other contents have been placed in such package; or if the package fails to bear a statement on the label of the quantity or proportion of any alcohol, morphine, opium, cocaine, heroin, alpha or beta eucaine, chloroform, cannabis indica, choral hydrate or acetanilide or any derivative or preparation of any such substances contained therein. Nothing in this chapter shall be construed to apply to physicians prescriptions, or preparations recommended and prescribed in the United States Pharmacopoeia and National Formulary.

SEC. 2. This act shall effect from its passage.

Approved December 18, 1908.

AN ACT TO AMEND SECTION 5485 OF THE PUBLIC STATUTES, RELATING TO THE SALE OF CERTAIN DRUGS.

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. Section 5485 of the Public Statutes is hereby amended so as to read as follows:

Section 5485. A person other than a registered pharmacist or physician, who sells or keeps for sale arsenic, corrosive sublimate, chloroform, aconite, strychnine, morphine, opium, cocaine, eucain, heroin, carbolic acid, prussic acid, paregoric, chloral hydrate, belladonna, cyanide potassium, digitalis, nux vomica or any salts, solutions, extracts or tinctures of such drugs, shall keep and offer them for sale only in original and sealed packages or bottles which shall have been prepared by a registed pharmacist or manufacturing chemist, and under a label on which shall be plainly printed the name and nature of the drug therein contained, the proper antidote to be given when taken in dangerous or poisonous quantities and the name of the pharmacist, manufacturing chemist or wholesale house that prepared or put up the same, with the name of the place where it was manufactured or prepared for sale. Whoever sells any of the drugs mentioned in this section shall have affixed to the bottle, box or wrapper containing the article sold a label of white paper upon which shall be printed in red letters the name and place of business of the vendor, and the words "POISON" and "ANDIDOTE," and the label shall also contain the name of an antidote, if any, for the poison sold. When a sale is made by any one of any of the above named drugs, salts, solutions, extracts or tinctures, such sale shall be entered and recorded in a book kept for that purpose, giving the name of the article sold, date of sale, to whom sold, residence of purchaser, for whom purchased, the use to be made of the article or drug purchased and the name of the salesman or clerk making such sale. Such book shall be open to the inspection of health officers, members of the state board of health and state officials who may wish to examine the same. Such sale of poisons shall be recorded in a book, the form of which shall be prescribed by the state board of health.

SEC. 2. Nothing in this act shall be construed to apply to compounds or preparations labelled according to the requirements of chapter 226 of the Public Statutes, and all amendments and additions thereto.

SEC. 3. This act shall take effect July 1, 1909.

Approved January 15, 1909.

AN ACT TO AMEND SECTION 5511 OF THE PUBLIC STATUTES, RELATING TO FIRE ESCAPES.

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. Section 5511 of the Public Statutes is hereby amended so as to read as follows:

Section 5511. The owner, lessee or keeper of a hotel more than two stories high or of a public hall or place of amusement more than one story high shall furnish suitable ladders or other safe fire escapes from each story above the first. Such ladders or fire escapes shall be accessible from each room of such buildings above the first story.

Approved January 9, 1909.

AN ACT RELATING TO THE POLLUTION OF THE WATERS OF THE LAMOILLE RIVER.

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. An owner or operator of a mill, who, by himself or agents, deposits or suffers to be deposited, any sawdust, shavings or mill refuse in the waters of the Lamoille river or in its tributaries above Cady's Falls in the town of Morristown, shall be fined not less than twenty dollars nor more than one hundred dollars, for each offense.

SEC. 2. Justices of the peace shall have concurrent jurisdiction with the county court of offenses under the provisions of this act.

SEC. 3. This act shall take effect from its passage.

Approved December 2, 1908.

AN ACT TO PROHIBIT THE DISCHARGE OF SEWERAGE OR OTHER POLLUTED MATTER INTO THE WATERS OF PONDS AND LAKES.

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. No person shall discharge sewerage or other polluted matter into the waters of any pond or lake having an area of one thousand acres or more lying wholly within the state. A person who violates a provision of this act shall be fined not more than two hundred dollars nor less than twenty dollars. Justices shall have concurrent jurisdiction with the county court of offenses under this act.

SEC. 2. This act shall take effect October 1, 1910. Approved January 27, 1909.

AN ACT TO AMEND SECTIONS 5364, 6365, 5367, 5368 AND 5371 OF THE PUBLIC STATUTES, RELATING TO THE PRACTICE OF MEDICINE AND SURGERY.

(Printed in February issue of this journal.)

BOOK REVIEWS.

BACKBONE.—Collected and arranged by S. DeWitt Clough, Ravenwood, Chicago.

Backbone is a delightful little collection of Hints for the Prevention of Jelly-Spine Curvature and is moreover a fine moral bracer. The collector, S. DeWitt Clough, has selected well and given his readers the quiet strength of Emerson, the dauntless optimism of Riley, the serenity of Margaret Sangster together with the vigor of Bryan and Roosevelt. Dr. George Butler well says in his introductory remarks that "the book is full with the philosophy of pluck, hope, enthusiasm and optimism."

THE CHANGING VALUES OF ENGLISH SPEECH.—By Raley Husted Bell. Hinds, Noble & Eldredge, publishers, New York City.

This book is a very readable work, treating in a popular way such subjects as The Aborigines, Changing Values, Language Change, The Original of Language, and the much talked of English Orthography and Simplified Spelling. However the book does not seem to us to be one that will add much of permanent value to the subject it treats.

MEDICAL CHEMISTRY AND TOXICOLOGY.—A Text-book of Medical Chemistry and Toxicology, by James W. Holland, M. D., Professor of Medical Chemistry and Toxicology, Jefferson Medical College, Philadelphia. The new (2nd) Revised Edition, Octavo of 655 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1908. Cloth $3.00 net.

The second edition of this well known text-book follows the same general lines as the previous edition. The chief additions and changes as the author states in his preface are those relating to the electronic theory; chemical equilibrium, Kjildah's method for determining nitrogen; classification of alkaloids and of proteins, chemistry of foods and their changes in the body; synthesis of proteins and the latest improvements in urinary tests. The chief criticism of the work lies in the arrangement of the matter relating to inorganic chemistry. Instead of considering physical chemistry in one section it is intermingled with inorganic chemistry. For instance, there seems to be no particular reason why the atomic theory should be interposed between carbon dioxide and chlorin, or crystallography be thrown into a consideration of sulphur. It is unusual to find oxalic acid treated under inorganic chemistry, even though it may belong there from a toxicological standpoint. We would also expect to find carbonic acid grouped with carbon monoxide and carbon dioxide. However these criticisms are more than offset by the many excellent features of the work. The pharmaceutical preparations of the elements and compounds are given together with incompatibilities, medicinal uses and toxicology. The toxicology is brief yet complete including symptoms, fatal dose, fatal period, treatment, post mortem appearances and detection. The chapter devoted to the discussion of water supplies is valuable and thoroughly up to date. The organic and physiological chemistry is well arranged and especial mention should be made of the graphic formulae which adds greatly to the clearness of the text. The chapter on alkaloids leaves little to be desired in a book of this scope, their classification, showing their relation to coal tar products and composition, gives one a clear understanding of this important branch of chemistry. The last chapters are devoted to clinical diagnosis and include a discussion of digestion, saliva, gastric contents, pancreatic juice, bile, intestinal juice, blood, milk and urine. For a book of its size it is the best treatise on medical chemistry which we have seen and one which should be used by practitioners as well as teachers and students of medicine.

A TEXT-BOOK OF MATERIA MEDICA, PHARMACOLOGY AND THERAPEUTICS.—By George F. Butler, M. D., Professor and Head of the Department of Therapeutics and Professor of Preventive and Clinical Medicine, Chicago College of Medicine and Surgery, Medical Department Valparaiso University. Sixth Edition,

Revised and enlarged. Octavo of 708 pages. Philadelphia and London: W. B. Saunders Company, 1908. Cloth, $4.00 net. Half Morocco, $5.50 net.

The call for a sixth edition of Dr. Butler's Materia Medica, Pharmacology and Therapeutics shows the high estimation in which this work is held by teachers, students and practitioners of medicine. The present edition follows the same general lines as the previous ones, the subject matter being changed and enlarged somewhat especially the articles on animal extracts (organotherapy). The book is too well known to need description but mention should be made of the chapter on opsonins, opsonic index and vaccine therapy, which is clear, concise and up to date.

Saunders' Pocket Medical Formulary.—By William M. Powell, M. D., Author of "Essentials of Diseases of Children." Containing 1831 formulas from the best known authorities. With an appendix containing Posologic Tables, Formulas and Doses for Hypodermic Medication, Poisons and their Antidotes, Diameters of the Female Pelvis and Fetal Head, Obstetric Table, Diet-lists, Materials and Drugs used in Antiseptic Surgery, Treatment of Asphyxia from Drowning, Surgical Remembrancer, Tables of Incompatibles, Eruptive Fevers, etc., etc. Ninth Edition, Adapted to the 1905 Pharmacopeia. Philadelphia and London. W. B. Saunders Company, 1909. In flexible morocco, with side index, wallet and flap, $1.75 net.

The ninth edition of this valuable little book has been brought up to the level of the latest medical knowledge. Formulae which are out of date and little used have been replaced by newer and more approved ones. More than one hundred such additions have been made which, like the ones previously given, have been culled from the writings of men recognized as authorities in their respective fields and therefore may be accepted by practitioners as reliable guides in prescribing. The work is of the right size to put into the pocket and will be a timely aid to many a physician.

International Clinics, a Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and Other Topics of Interest to Students and Practitioners.—By Leading Members of the Medical Profession throughout the world. Edited by W. T. Longcope, M. D., Philadelphia, U. S. A., with the collaboration of Wm. Osler, M. D., John H. Musser, M. D., A. McPhedran, M. D., Frank Billings, M. D., Chas. H. Mayo, M. D., Thos. H. Rotch, M. D., John G. Clark, M. D., James J. Walsh, M. D., J. W. Ballantyne, M. D., John Harold, M. D., Richard Kretz, M. D. With regular correspondents in Montreal, London, Paris, Berlin, Vienna, Liepsic, Brussels, and Carlsbad. Vol. I. Nineteenth Series, 1909. Philadelphia and London: J. B. Lippincott Company.

The first volume of the nineteenth series contains two articles on treatment, three on medicine, four on surgery, two on obstetrics and gynecology, one on genito-urinary diseases, one on proctology, one on rhinology, one on dermatology and one on pathology. An additional and valuable feature is a summary of the progress of medicine during the year 1908. This consists of epitomes and discussions of the leading articles with complete references on treatment, medicine and surgery which were published during the year. There are two colored plates and forty-one other illustrations.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

THE PRESENCE OF TUBERCLE BACILLI IN THE CIRCULATING BLOOD.

Dr. Randle C. Rosenberger, assistant professor of bacteriology in the Jefferson Medical College, (*American Journal of Medical Sciences*, February, 1909) tells of a series of fifty cases of tuberculosis in which he attempted to demonstrate the presence of tubercle bacilli in the circulating blood, with success in every instance. His purpose in studying these cases was "To prove that tubercle bacilli are present in the blood in all cases of tuberculosis, and to determine if possible the presence of organisms in the so-called mixed infections in the later stages of the disease."

Of the fifty cases studied, five were diagnosticated as acute miliary tuberculosis, two as fibroid tuberculosis, one as pneumothorax, fifteen as incipient, twenty-three as moderately advanced, and three as laryngeal tuberculosis, while one was blood from the umbilical cord of a placenta from a tuberculous mother. The blood for examination was drawn from a vein of the arm, preferably 5 c. c. in amount, mixed with an equal amount of sodium citrate solution and allowed to stand for twenty-four hours. The sediment was then removed with a pipette and examined. Usually bacilli were demonstrated in the first slide, but in some instances three were required. In every case bacilli were found, usually in large numbers, sometimes in clumps of thirty or forty, and in some instances bacilli were observed within the leucocytes. In but one case was another organism found, this being the pneumococcus.

The author concludes, as a result of his investigations, that tuberculosis in all its forms is a bacteriemia, and that the bacilli are demonstrable in the blood even in healing cases. From the fact that in but one case was a second organism found, he is led to doubt the frequency of mixed infection late in the disease. Since writing this article, and up to Jan. 15, 1909, Dr. Rosenberger has increased the number of cases studied to 125, finding the bacilli in all.

GENERAL SUSCEPTIBILITY IN TYPHOID AND COLON INFECTION, AS SHOWN BY THE OPHTHALMIC TEST.

Cleaveland Floyd, M. D., and Williston W. Barker, M. D., of Boston, in the *Journal of Medical Research* for January, 1909, discuss under the above title the use of an ophthalmic test for typhoid and colon infections, similar to the Calmette reaction in tuberculosis. The method of applying the test for typhoid was to grow virulent typhoid bacilli on agar for twenty-four hours, when the organisms were washed off with physiological saline solution, and the suspension incubated for four days. The solution was then sterilized, thoroughly centrifugalized, and the supernatant fluid pipetted off into sterile tubes. The best results were obtained when each c. c. of the saline solution contained the toxic principle of one billion bacilli. With children one-half this strength was found better.

When a little of this solution is put into the conjunctival sac, a reddening of the conjunctiva occurs within some four hours followed by lachrymation. The reaction is most noticeable in about twelve hours, when the eye seems seriously affected, but rapidly subsides, with no injury to the eye, as far as observed. Contraindications to the test are similar to those of the Calmette test. The writers cite a list of seventy cases reported by Chantemesse, and twenty-seven by Hamburged, in all of which a positive reaction occurred. In their own series of ninety-three cases of clinical typhoid the reaction was marked in all but two. Of twenty-four patients having other diseases than typhoid, four gave a well-marked reaction. These were all tubercular.

The reaction seemed to occur only during the active stage of the disease, being very slight or absent when the temperature becomes normal. It frequently occurred during the first week, in most cases from two to ten days prior to the Widal reaction, or to the culture of the bacillus from the blood. The authors think the test is of diagnostic value, without danger, easily made, often obtainable before the Widal, and practically specific for typhoid.

Tests of a like nature were made with the colon bacillus. First a solution made from colon bacilli was used in testing the eyes of twelve adults and six or eight children having typhoid. Slight and transitory reactions were obtained in some cases, especially among the children, but easily distinguishable from the true typhoid reaction. The reactions do not appear to be interchangeable. Seven cases of colon infection were then studied to ascertain if there was an ophthalmic reaction for this bacillus. Six gave a marked response, quicker and more severe than the typhoid reaction.

DIPHTHERIA "CARRIERS."

M. Solis-Cohen, Philadelphia (*Journal A. M. A.*, January 9), believes that the latent and "carrier" cases are mostly responsible for the spread of diphtheria in cities where the usual precautions are taken as to notification, etc. He gives his own results in the examination of those who had come in contact with diphtheria and quotes those compiled by Graham-Smith which correspond fairly well with his own, which showed an average of over 60 per cent. infected. The infected "contact" is, therefore, as great a menace to public health as the convalescent from actual diphtheria. He defines as "latent" diphtheria the condition in which positive cultures are found in persons showing some pathological condition, local or general, unassociated with pseudo-membrane. Some of those cases may possibly be only tonsilitis. The fact that non-virulent diphtheria-like bacilli are found in the mouths of healthy persons complicates the question, but Solis-Cohen thinks that health officials would be justified in demanding bacteriologic tests of those who had been in contact or inmates of the same house or institution with a diphtheria patient, and, if found infected, isolating them till the bacilli disappear. But, owing to the possibility of the organisms being non-virulent, inoculation tests should be made when requested on guinea-pigs, and restrictions removed if the animal survives. He has followed this plan in his practice and as medical inspector, whenever possible, since September, 1906, with good results and relates a number of instances showing its utility.

PERSISTENT BACTERIURIA.

Bacteriuria really represents an infection different only in degree from ordinary cystitis says J. T. Geraghty, M. D., in *John Hopkins Hospital Bulletin*, January, 1909. In one the infection is present without any inflammatory reaction on the part of the bladder wall, while in the other we have the infective agent in the urine plus involvement of the vesical mucosa. In acid bacteriuria, while there may be slight burning and frequency of urination, there is only one characteristic symptom and that is cloudiness of the urine similar to that of bouillon culture. The usual chemical examination shows nothing and it is only by microscopic examination that the nature of the condition becomes evident. The urine may be alkaline, due directly to the action of the micro-organisms, and give rise to a troublesome phosphaturia. In most cases the trouble clears up with administration of urinary antiseptics. When it has persisted for a long time the focus of infection must be cleared up, by irrigations, instillations, dilatation and massage.

In conclusion, Geraghty states that bacteriuria when persistent is always due to organisms of slight pathogenicity. When it is due to B. coli communis an acid urine is produced; when due to staphylococcus albus it may be alkaline. It is secondary to some focus in the urinary tract or neighboring organs. It may persist indefinitely despite all treatment without producing any inflammatory reaction on the part of the vesical mucosa. The results of vaccine therapy are entirely negative.

DIGITALIS IN PNEUMONIA.

T. F. Reilly, New York, (*Journal A. M. A.*, December 26), believes in the use of fairly large doses of digitalis in the treatment of pneumonia. In this disease, he says, there are two general indications from start to finish. 1. To get rid of the toxins so far as possible, until Nature is able to furnish her antitoxin. 2. To sustain the heart and circulation, on which the brunt of the attack falls, until the danger is past. The toxins must be eliminated if possible, by the bowels, skin and kidneys, and in digitalis, with proper dosage and manipulation, we have one of the best diuretics. It acts on the heart by lengthening the diastole, and so rests the wearied and weakened heart muscle, and, beyond this, it also aids in the direct nutrition of the heart, the blood supply reaching it only through the period of diastole. While he does not hold that all pneumonia patients can be saved by this drug, he claims that we can frequently keep the pulse below 100 by its use, and the elaborate statistics of the Massachusetts General

Hospital show that with the pulse under 100 the disease is seldom or never fatal. It is too late to give digitalis when the heart begins to fail, for it requires from thirty to forty hours for it to get a complete hold on the heart. As to the dangers of digitalis medication, aside from a marked arrhythmia after the crisis, which is often characteristic of the disease itself, he has seen no evil effects from its use. The symptoms of digitalis intoxication, if they appear, are not usually alarming and can be easily overcome by lessening the dose. His statistics of his private practice include 126 cases of lobar pneumonia and 24 of bronchopneumonia. There were four deaths in each series, a percentage of 3.17 for the lobar variety and 16.6 for the other. The bronchopneumonia deaths were three of them at three years of age, and one (tuberculous) at 75; in all the deaths from lobar pneumonia the patients were past 40, the serious period for the disease. The treatment was uniformly the administration of rather large doses of a reliable preparation of digitalis, usually the fluid extract, as soon as the diagnosis was made, with simple diaphoretics and diuretics for the elimination of toxins and the use of strychnin, caffein, etc., as stimulation was required.

TUBERCULIN REACTIONS.

W. Engelbach and J. W. Shankland, St. Louis (*Journal A. M. A.*, January 2), review the literature as to the diagnostic value of the cutaneous and conjunctival tuberculin reactions and report personal observations. They find that the diagnostic value in adults has many limitations. The specificity of these reactions has not yet been demonstrated, as proven by: 1. Experimental work on animals; 2. presence of a positive reaction in non-tuberculous conditions: (a) local conditions of the eye, trachoma, follicular conjunctivitis, etc.; (b) general conditions; clinically, normal individuals, other diseases not tuberculous (typhoid) controlled clinically and by autopsy; 3. the presence of a negative reaction in tubercular cases, (a) miliary tuberculosis, tuberculous meningitis, advanced pulmonary tuberculosis, etc., (b) incipient and second stage tuberculosis controlled clinically and by autopsy; 4. the production of this reaction by other toxins, typhoid, etc., in tuberculous cases. The activity or extent of the lesion has no definite relation to the degree or kind of reaction, for: 1. One or both of these reactions have been seen in clinically normal individuals in an inconstant manner; 2. there is a marked variation of the occurrence of the reaction in various stages of clinical tuberculosis; 3. there has been no more definite control than the clinical findings of the relationship of the stage of the lesions with the degree and kind of the reaction. The conjunctival reaction is not free from danger since: 1. Non-tuberculous lesions of the eye have been aggravted by it; 2. tuberculous lesions of the eye have been stimulated into activity; 3. general or constitutional symptoms have been produced. The article is illustrated by tables.

REMARKS ON THE USE OF ALKALIS IN PRACTICAL MEDICINE.

Eustace Smith, M. D., Senior Physician at the East London Hospital for Children, in the *British Medical Journal* for Jan. 30, 1909, discusses the various therapeutic uses of the alkalis, with some warnings against their misuse. Before meals, they first act locally, neutralizing acidity, and having a soothing influence on the mucous lining of the alimentary tract. Overdosage may aggravate the disease present, by overstimulating gastric secretion. After absorption, the alkalis increase the alkalinity of the blood. Too long continued they may lead to anemia. During their excretion they lessen the acidity of the urine, and thus may benefit or harm. Marked susceptibility is found in some people.

In catarrh of the stomach, the alkalis are useful, largely from their local action on the gastric walls, though a beneficial effect seems produced on the entire system, so that they may be said to act as alteratives. Moderate dosage should be employed, and anemia guarded against. For the general effect, citrates and acetates are preferable, as they become alkaline only after being chemically changed in the blood.

The bicarbonates of soda and potash are popular in stomach disorders, and sodium chlorid or tincture of colchicum may sometimes be added with advantage. For the local action, the alkali should be given before meals, and may be made up with some bitter infusion if desired. But to correct acidity, the proper time is some two hours after meals. Liquor potassae and liquor sodae are more sedative than the bicarbonates. In ordinary flatulent dyspepsia, the alkalis may reduce the catarrh of the stomach mucous membrane. They should not be given if the urine be ventral or alkaline. The salts of soda are less depressant than those of potash.

The heavy carbonate of magnesia is especially good, combined with powdered rhubard, in stomach derangements in children. Or, if there be diarrhoea, aromatic chalk may be used for the astringent effect. When the intention is to neutralize acid in the caecum. the choice is for the insoluble alkalis, which reach the bowel unchanged. The aperient action of the insoluble salts seems to grow marked with each successive dose.

In treating urinary acidity, or when there is discharge of sand or gravel, the alkalis may be of service by reducing the acidity of the urine and tending to prevent uric acid deposits. In this connection, citrate of potash is recommended. For infant feeding, in modifying cows milk, citrate of soda is best, forming looser more digestible clots than do the other alkalis. Bicarbonate of soda is given in dyspepsia, but a long course may cause anemia and depression. It is often given to allay acid fermentation, toward the end of digestion, or to relieve cramps which often attack the dypeptic at night. The bicarbonate has been displaced by the salicylate in the treatment of acute rheumatism, though the two are sometimes combined.

Acute bronchitis, with thick, viscid secretion is often relieved by alkalis, the salts of soda and potash rendering the secretions more fluid. Sodium bicarbonate has also a soothing influence when applied externally to sores or inflamed areas, while a warm bath containing a little of this salt has a soothing effect in such conditions as eczema, psoriasis, etc. Ulcers and whitlows, after evacuation of the pus, derive benefit from a dressing of a three or four percent solution of the bicarbonate. Burns, scalds and otorrhoea may be helped by the same treatment; the value of a similar solution as a douche in tonsillitis is well-known, while toothache if due to acid secretions acting on a decayed tooth, may sometimes be relieved by the same solution used as a mouth wash.

ASTHMA A NASAL DISEASE.

J. Hobart Egbert, A. M., M. D., of Willimantic, Conn., Oculist, Aurist and Laryngologist to the St. Joseph's Hospital in the *New York Medical Journal*,

for Feb. 20, 1909, presents the view that asthma is very often due to nasal defects. While not claiming that all cases of spasmodic asthma are necessarily of nasal origin, the author states that all of many such cases observed by him have presented definite nasal lesions, and that all that have undergone operation or radical treatment for the nasal condition have been entirely cured or definitely relieved. A standard text-book on practice, published in 1908, is quoted as follows: "Except in the presence of bronchitis or other affection, there are no structural changes. The attacks consist in spasm of the muscular coat, with vasomotor turgescence of the mucous coat of the bronchi." This absence of pathological change in the situation when the disease is most manifest, together with the periodical recurrence, and the uncertainty of any routine treatment, is held to point to a definite lesion elsewhere than in the bronchi, as a cause. This, with the fact that severe and obstinate cases have entirely recovered after nasal operations, leads to the assertion that "Asthma is not a distinct disease, but a symptom and often the chief symptom, of nasal deformity or disease." Asthmatic attacks may in time lead to emphysema, cardiac dilatation, etc., which may obscure the chief and primary lesion.

The condition of spasmodic contraction of smaller bronchial tubes that obtains during an attack is due to a reflex neurosis, and results from external stimulation transmitted along the nerves to the muscular walls of the bronchi. There is also vaso-motor disturbance, with congestion of the mucous membrane lining the bronchi, and this still further reduces their calibre. The nerve stimulation causing both effects is applied in the nasal fossae, and conducted through the sympathetic system, and indirectly through the vagus.

Nasal polyps are not rarely found in cases of asthma, and their thorough removal may afford relief, but as these are often dependent upon nasal deformity or disease, treatment should not cease at removal of the polypi, but other nasal defects should be remedied. Ecchondroses, spurs, bands, spreads and deflections of the nasal septum should be removed or otherwise treated as should hypertrophies or deformities elsewhere. The ethmoidal region should have attention, and drainage of accessory sinuses secured. The turbinates may be hypertrophied. A few cases may show simply some oversensitive area.

Beside the nasal trouble, neurotic habit and acquired lack of resistance may help cause or at least continue the disease, and these should be considered in the treatment. This lack of resistance may arise from treatment for the asthma, through the use of depressants or agents irritating to the mucous membrane. Lobelia, stramonium, tobacco, etc., may relieve the attack by depressing the pulmonary nerve supply, and are often harmful, by causing general systemic derangements, and by weakening the nerve organization. The nitrites and pilocarpine also have their dangers, while morphine, chloral, chloroform, etc., are only of temporary value during acute exacerbations, and the possibility of habit-forming should be considered. If the above etiology be conceded, the indications for treatment are plain. The first thing is to treat the nasal conditions, by surgical or other methods. Secondly, the nervous system is to be strengthened. Here cold morning baths may be useful, as may change of scene and of climate, and congenial surroundings. Some medicines, nerve invigorators may be useful. Such are strychnine, atropine, phosphorus and quinine. The first two may often be advantageously combined. During paroxysms, avoid drugs if possible. If necessary, give paraldehyde, or morphine with atropine. Thirdly, in the treatment, carefully look for and treat all concurrent disorders, organic or functional. Hygienic and dietetic measures are important.

The article closes with a record of eight cases of asthma "selected from a rather considerable number" In the practice of the writer. In all, nasal defects were present, and were given radical treatment, and in all a cure or marked amelioration of the asthma followed.

BACKACHE IN WOMEN.

L. F. Garrigues, New York (*Journal A. M. A.*, January 2), says that backaches in women are so common and so far-reaching in their effects that their thorough understanding is of great importance to the physician, yet we find practically nothing on the subject in text-books. Leaving out of consideration those due to rheumatism or strain, he confines himself to the subject of the pelvic backaches, and more especially those caused by disease of the internal pelvic organs and cellulitis of the uterosacral ligaments. Pelvic backache is of two kinds. In one there is pain and tenderness at the level of the fourth and fifth lumbar vertebræ, where the spinal nerve center governing the internal pelvic organs is situated. The treatment of this form, to be effective, necessitates the cure of the underlying disease. In the second variety there is a tender spot on either side of the second sacral vertebra which he contends is due to cellulitis of the uterosacral ligaments. If only the site of the pain is considered, incipient sacroiliac disease or caries of the fourth or fifth lumbar vertebra might be mistaken for pelvic backache, but the first of these is rarely bilateral, and is accompanied by pain on compression of the iliac bone, while the other has some spinal rigidity and is especially aggravated by jars. Neuralgia is less sharply localized and usually causes a more intense, intermittent pain, instead of a dull and constant ache. In rectal inflammation and fracture of the coccyx the pain is referred to the coccyx. In pendulous abdomen there is a dull, constant dragging pain, referred to the lumbar region, probably due to the traction of the mesentery, but it is relieved by lying down or the wearing of a supporter. The only variety of backache peculiar to women, Garrigues says, is that due to cellulitis of the uterosacral ligaments, characterized as stated above, by pain at the outer sides of the second vertebra, and he goes at some length into the description of the anatomy and pathology of the condition. The symptoms in an uncomplicated case are backache, referred to the spots described, which becomes worse on exertion, and there is a distressing sense of weakness. Pain on sexual intercourse is often marked. The diagnosis by vaginal examination is easy if the normal conditions are known and the symptoms of pain on manipulations of the ligaments is brought out and their abnormal conditions recognized. The treatment is to put the patient to bed, apply an icebag to the lower abdomen, and to administer active saline cathartics; tampons dipped in a 5 per cent solution of iodin-glycerin are useful and hot douches may be employed, though he thinks that their value is overrated. Besides this the cause, if still present, must be removed. If suppuration occurs, or before, in a severe case, vaginal incision and drainage should be employed, care being taken not to enter the peritoneal cavity. In mild chronic cases, painting of the posterior vaginal fornix with tincture of iodin, two or three times a week,

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Professor Metchnikoff, the eminent bacteriologist, sub-director of the Pasteur Institute of Paris, in his book "The Prolongation of Life," shows that premature senility is probably due to putrefactive decomposition of waste material in the colon, with the absorption of toxins which cause arterio-sclerosis and other senile changes. He recommends the use of cultures of lactic-acid bacteria as a preventive of the putrefactive process, the most suitable vehicle for their ingestion being buttermilk.

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also 5 percent ichthyol-glycerin tampons or vaginal suppositories inserted at night, are useful. If these measures do not produce sufficient absorption, pelvic massage gives fairly good results, but seldom complete cure and is somewhat tedious and painful. To overcome these objections, it occurred to Garrigues that section of the uterosacral ligaments would be rational and not a dangerous treatment, and he reports two cases successfully treated in this way. In answer to possible objections that these ligaments are an important uterine support and that severing them might lead to a prolapse, he answers that the peritoneum holds the divided ends of the ligaments from dropping too far apart, and the gap must eventually be filled by a nerveless fibrous tissue. "The final result will be the same as in the section of a tendon of the eye for strabismus, namely, the tendon becomes longer. Backaches in women are so common and distressing in result that it is the duty of the physician to do all in his power to relieve them. The operation, which I shall call section of the uterosacral ligaments, should be safe in skilled hands, and if on further trial it gives anything like the relief it did in the cases cited, it should be used to combat pain and disease."

THERAPEUTIC NOTES.

Notes on American Pharmaceutical Remedies—(*Am. Medicine*, vol XIV, No. 6.)

CALCALITH.

Description. Compressed tablets.

Formula. Each tablet contains pure Calcium Carbonate, gr. 10, Lithium Carbonate gr. 1, Colchicine pure gr. 1-500 Aromatics q. s.

Action. Calcalith is claimed to effect elimination of the waste or by-products of metabolism by stimulating normal physiological processes and correcting their derangement.

Uses. Recommended as serviceable for correcting the various manifestations of malassimilation and defective elimination, as manifested by autotoxemia and the group of maladies variously classified clinically as rheumatism, gout, etc.

Dosage. One tablet every two to four hours with copious drinks of water.

Special Considerations. Calcalith is claimed to be non-irritant and to exert no objectionable effect in the stomach.

References. Dr. A. C. Croftan, Chicago, Ill., *Jour. A. M. A.*, March 28, 1903, also Croftan's Clinical Urinalysis, p. 197.

Manufacturers. The Abbott Alkaloidal Company, Chicago, Ill.

Irritable Bladder.—The condition commonly spoken of as bladder-irritability is often very troublesome, and not infrequently difficult to relieve. The causes are many, but in every instance the primary object to be sought in treatment is to render the urine bland and antiseptic. Of the remedies that have been suggested for this purpose, none gives more prompt and satisfactory relief than cystogen-lithia. The use of this product is quickly followed by a change in the character of the urine, and an alleviation of the irritable condition of the mucous membrane. Micturition becomes less frequent and the smarting and burning disappear. Cystogen-lithia is particularly useful in conditions where the bladder does not completely empty itself.—*Int. Journal of Surgery.*

After Typhoid Fever.—The convalescent period after typhoid fever is always a trying one. Weakened functions must be coaxed back to normal activity, and every effort made to promote proper nutrition. For many years Gray's Glycerine Tonic Comp. has enjoyed the confidence of the medical profession as a most efficient and satisfactory reconstructive for aiding convalescence. It increases the appetite, raises digestive capacity, and rapidly improves the absorptive and assimilative powers. Thus it offers the most tangible aid to the organism at the time when it needs help the most.

The Blood Dyscrasias of Pregnancy.—It is evident that the female economy undergoes profound alteration during pregnancy. The whole organism is subjected to unusual strain and the necessary changes in the general metabolism invariably increase the tax, not only on the constructive forces of the body, but on the eliminative functions as well. The slightest failure to throw off either the waste products incident to the necessarily increased physiological activity of the mother, or those resulting from the establishment of the more complex metabolistic processes in the fetus, always tends to create a vicious circle of blood dyscrasia that is not infrequently fraught with great danger. For instance, faulty elimination means embarrassment of the hematogenic function, with hemolytic changes more or less severe, and these conditions in turn not only coincidently increase the amount of waste substances to be excreted, but directly lower the eliminative capacity as well. In other words, the initial effect tends to exaggerate the pernicious influence of the primary cause, and the accumulative result is therefore the most dangerous feature.

Hence, it is little wonder that slight deviations from the normal during pregnancy often assume certain serious aspects that are out of all proportion to their first importance. All this teaches that comparatively slight ailments are unknown quantities when met in connection with the pregnant state, and should be treated not on the basis of their apparent significance, but on the basis of their possible dangers.

The blood dycrasias, particularly the anemias, because they are most easily demonstrable, call for early correction in pregnancy. It requires no argument to show that much depends on the physiological activity of the cellular elements of the blood, and any deficiency in their number or functionating capacity is always portent of evil. Vigorous treatment is necessary and among the really effective therapeutic measures at the command of the profession, Pepto-Mangan (Gude) is especially worthy of prominence. This widely known and widely used product possesses marked hematopoietic properties, and its effect on the increment of new blood cells gives valuable aid in promoting rapid and effective elimination.

Extensive experience has shown therefore that in no condition is Pepto-Mangan more useful or prompt in its results, than in the blood dyscrasias of pregnancy. Its immediate action is not only satisfactory, but its extensive use for some time previous to delivery, as well as subsequently, favors rapid convalescence during the trying post-labor period, with very noticeable effect on the local phenomena of involution.

Briefly stated, Pepto-Mangan (Gude) is a tonic hematic, unusually potent for good, and absolutely free from harm. Its more than substantial success in this class of cases is the most convincing argument for its continued use.

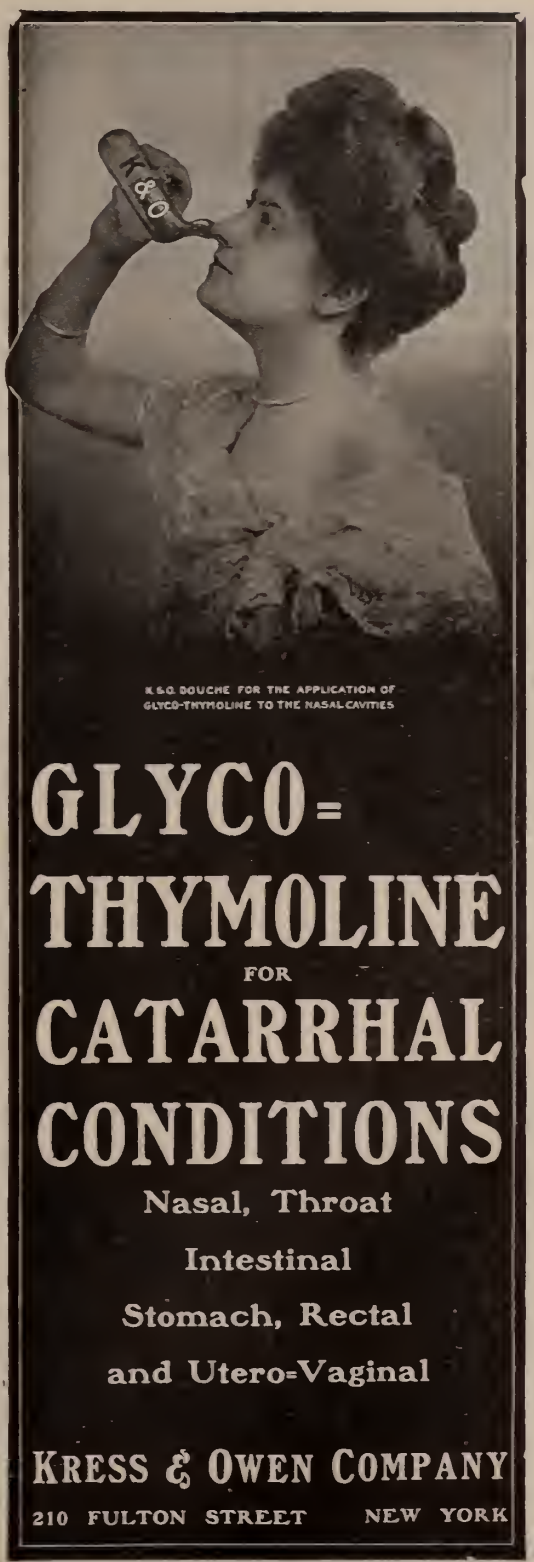
Dr. Deaver Honored.—On February 15th last one hundred and sixty surgeons, each possessing a scar as evidence of the removal of his appendix, were hosts of Dr. John B. Deaver, of Philadelphia, who had operated upon them all. He was the only possessor of an appendix among the diners. Even the waiters were bereft of this rudiment, though Dr. Deaver was not alone responsible for their bereavement. They were garbed for this occasion as Red Cross orderlies. A loving cup was presented Dr. Deaver in the form of a manikin, with a knife sticking in the abdomen at the point of the appendicitis incision. The table decorations were symbolic.—*Medical Times.*

Appendicitis and Poor Tooth Brushes.—The tooth brush has become a necessity to the civilized human being, but when we use tooth brushes we should be sure to use good ones. Bad tooth brushes not only irritate the gums, but the loose bristles may cause trouble by lodging in the larynx, trachea, or they may cause irritation in the gastro-intestinal canal. Apparently they may even sometimes be the cause of appendicitis.

Dr. Cornelius A. Griffiths states (*Brit. Med. Jour.,* Jan. 2, 1909) that he operated on a girl aged 10 for recurrent attacks of pain in the appendiceal region, and removed from the appendix a tooth brush bristle. He also states that outside of fecal concretions this is the only foreign body that he has ever found in an appendix.—*Critic and Guide.*

Primary Carcinoma of the Bronchus.—Letulle (*Journal des Praticiens,* Jan. 2, 1909), reports three cases. Primary cancer of the bronchial structure may assume one of three varieties: 1, interstitial; 2, vegetating; 3, cavernous. From a clinical standpoint the disease is protean.

The Beauty Specialist.—Not long ago a damage suit was brought against a "dermatological institute" for the facial deformities resulting from an attempt to obliterate a woman's wrinkles by paraffin injections. This served,



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it is to be hoped, to call public attention to what surgeons from time to time have opportunity to observe—the mischief that is wrought by paraffin injection in the hands of the unskilful and unscrupulous.

The advertising "beauty specialist," who preys on the vanity of the ignorant, is the chief offender in this direction, but he is probably not the only one. The regular physician whose experience in this field is small, as his effort is sincere, is equally apt to do mischief. Paraffin prothesis requires a very exact technic, and no small amount of practice. Its employment should be left to those who are experienced in that technic and who have an accurate appreciation of the legitimate indications for and the limitations of, cosmetic injections.—*Am. Jour. Surg.*

For Persistent Intestinal Catarrh.—Hare says that ammonium chloride, given in grain doses every five hours, is efficacious, especially if in very persistent cases it be given in alternation with 3-grain doses of potassium iodide.—*Med. Summary.*

Pullman Cars are to be investigated by Dr. Harvey W. Wiley, chief of the Chemistry Bureau of the Department of Agriculture at Washington, in which city great interest was aroused by the recent International Tuberculosis Exhibition. "We have taken samples of material breathed by the sleepers in these cars, and we are analyzing it to find out what it is. We don't know what it is; all we know is that it isn't air." Dr. Wiley believes thousand of cases of infectious disease without any discoverable source, are due to germs absorbed during railway travel;" outside of a laboratory it would be difficult to find a more congenial home and breeding place for microbes than the modern upholstered sleeping car. Whenever a door is opened or shut or any movement is made in the compartment clouds of dust are set in commotion and myriads of germs that had been lying dormant on the walls and floors start off on a new hunt for a more congenial habitat.—*Med. Times.*

Room Disinfection.—W. B. McLaughlin (*Med. Rec.*, July 18, 1908), submits a new and efficient method. He finds that the methods in use at present are objectionable because the gas used does not penetrate sufficiently to kill germs that are far from the surface of objects to be disinfected. This his own experiments have demonstrated. Large quantities of formalin poured upon the surface do not give off gas enough to cause penetration. McLaughlin has found, however, that a mixture of formalin and carbolic acid gives off gas that penetrates fabrics efficiently; he uses a mixture of 75 per cent. of a 40 per cent. formalin solution and 25 per cent. carbolic acid. Eight ounces are used for each 1,000 feet of air space, and the room is closed for twelve hours. A sheet saturated with the solution is hung in the room to be disinfected. The bacillus pyocaneus is killed through many layers of fabrics.—*Med. Times.*

Exterminate the Fly.—According to the Water Pollution Committee of the New York Merchants' Association, 7650 deaths from typhoid and other intestinal diseases can be traced each year to the flies of New York City. In Chicago,

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also, experiments have been made. In a district where typhoid fever was prevalent 18 flies were caught, and the typhoid germ was isolated from five of the eighteen.

Fracture and Dislocation of the Neck: Recovery.—Geo. Herbert Williams, of Fishkill-on-Hudson, N. Y., details the case of a man of sixty years of age who after a moderate fall had complete paralysis of both sensation and motion below the line of the neck. The pulse was slow, and the respiration was carried on by the diaphragm alone. It was decided that there was a disclocation of the sixth cervical vertebra. Careful reduction was attempted, with the result that a slip was felt and feeling and motion returned slightly. Power of motion gradually returned in the legs until the patient was able to go about. The right arm also recovered, but the muscles of the left forearm and hand atrophied so that the hand became useless. The author assumes that some of the nerve roots were torn at their exit from the foramina.—*Med. Record*, Nov. 7, 1908.

Why Let Consumptives Run at Large?

The most advanced idea in the movement to eliminate the dreadful scourge of tuberculosis is to compel every person in the advanced stages of the disease to be isolated from the general public by being placed in a hospital or sanitarium. This seems rather harsh and in the present state of public opinion would be a regulation difficult to enforce. But when we really get in earnest about the matter we will do what is best for the healthy rather than consult the whims of those whose span of life is about concluded. The cold and perhaps cruel truth is that a consumptive has no more right to scatter the germs of his terrible affliction among the strong and well than has the victim of smallpox or diphtheria. We quarantine for such a mild contagion as whooping cough. Why let the consumptive run at large?—Frankfort Times.

Locomotor Ataxia.—Le Grand N. Denslow, of New York, brings forward the theory that locomotor ataxia is due to peripheral irritation acting on the nervous centers. From his experience of the practical treatment of such cases he draws his conclusions. Peripheral irritation can produce pathological changes in the central nervous system by creating continuous nerve impulses which exhaust the substance of the nerve centers. Peripheral nerve degenerations of tabes are due to such impulses carried to the point of greatest vulnerability in the central nervous system. Symptoms are out of proportion to pathological changes; such cases are due to the creation of a nerve aura which extends to the cerebrum, cerebellum, and sympathetic. Removal of this causal irritation results in recovery from such grave symptoms as loss of balance, ataxia, incontinence of urine and feces, anesthesia, hyperesthesia, etc. The author details ten cases treated by him.—*Med. Record,* Nov. 21, 1908.

Deutschmann's Serum Against Infectious Diseases.—E. Caravia (*Med. Rec.*, July 18. 1898), describes this product of the blood of animals that have been fed with increasing doses of sterile yeast. This is not a bactericidal nor an antitoxic serum, but a polyvalent serum neutralizing all kinds of germs. Its action is due to the formation in the animal blood of an as yet unknown substance, the result of a series of chemical reactions set up by the digestive apparatus of the animal. As long as health is normal this substance remains unaltered in the blood; but when resistance is impaired it comes into action. In apyretic affections the injection of 15 to 20 c. c. of the serum has no influence on temperature; in few, however, it causes gradual but steady fall of temperature.

"Give him air, he'll straight be well."—Shakespeare.

"Hygiene can prevent more crime than any law."—Hugo Münsterberg.

"Health is the essential factor in productiveness, prosperity and happiness, and hence in the advancement of civilization."—Sir Frederick Treves.

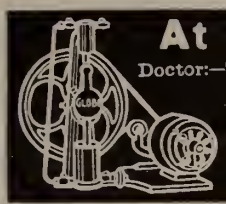
"A state which will not prevent what can be foreseen is open to indictment."—Münsterberg.

"There is a budget which we pay with frightful regularity; it is that of unnecessary disease and premature death."—Irving Fisher.

"We should every one of us individually and collectively as a commonwealth, feel the need of cutting down consumption, this grinding tribute, by reducing to the vanishing point its incursions."—Osler.

"Sanitary instruction is even more important than sanitary legislation."—Earl F. Derby.

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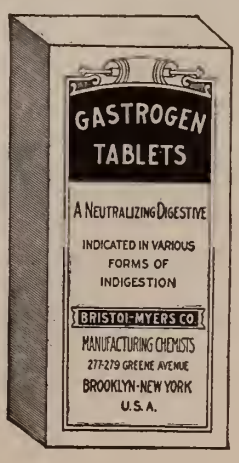
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ORIGINAL ARTICLES.

SOME POINTS ON THE EARLY DIAGNOSIS OF MALIGNANT DISEASES OF THE BREAST AND OF THE UTERUS WITH TREATMENT, INCLUDING COOLEY SERUM.*

BY

S. E. MAYNARD, M. D.,
Burlington, Vt.

Mr. President and fellow members: It will not be the object of this hurriedly prepared paper to go into the minute details, or to discuss the pathological conditions between benign and malignant growths as they affect the female breast and uterus. The chief cause of bringing the practical points to your notice is the large number of hopeless cases which have come to our attention at the hospitals during the past year. It shows plainly the necessity of emphasizing the few safe rules which enable us to save lives by getting ahead of disease. It is a common thing to have a patient come into the office saying that: "I have come to consult you in regard to a growth in one of my breasts. I spoke to my family physician about it several months ago, and he said as long as it did not pain me that I need not worry about the matter, but it has of late begun to pain me, so I thought best to see you at once." There is in such cases good reason for education both of the laity and their physicians. Like as not the woman had known of the growth for several months before she spoke to her physician, and perhaps at the time the physician knew of the case it was even then too late to effect a cure.

Another frequent story which almost leads to diagnosis in itself is that told by many women at about the time of the menopause. They come to you complaining of a slight bloody discharge, at first present only occasionally, but later becoming more constant being aggravated by walking, lifting, straining at stools, etc. The patient frequently says that she has considered it due to her age, and that her physician has questioned her with regard to it particularly with reference to pain, and has told her that it probably was due to her age, as she was suffering no particular inconvenience or pain from it.

The chief fault which has led to the death of many women is not a lack of knowledge upon the part of their physician, but the lack of a searching examination. If there is any point in which we busy practitioners are apt to fail, it is that our cases are not examined thoroughly enough. Let us discuss the few important conditions readily made out by the average observer, which will lead to a correct diagnosis and proper treatment of the tumors of the breast.

First of all the fibro-adenoma—a common growth in virgins, which may be said to be a fair representative of all benign growths of the breast; pure fibromata or pure adenoma being extremely rare. They occur chiefly between the twentieth and thirtieth years of life and are uncommon after forty. They cause little pain, and may vary in size from a hazel-nut to a man's head. When small they are firm and hard, but when large they usually have soft areas. They are usually round with a smooth surface, but may be at times irregular and lobulated, never becoming adherent to the skin, underlying fascia, or glandular tissues. Many may remain small for years, and then suddenly increase in size. This is generally due to the formation of cysts within the tumor. The most important clinical criterion of these tumors is that they are incapsulated, and are easily removed especially when superficial. Sometimes they may not appear to be in any way connected with the breast. The treatment in these cases is operative.

Sarcoma constitutes from seven to nine per cent of all tumors of the breast. It may occur at any time of life. They may remain small for years and suddenly increase in size, and when small it is impossible to differentiate them from fibro-adenoma, cysts, or carcinoma. When large the over-lying skin becomes tense, thinned, and reddened, and may ulcerate. The veins become much enlarged; the nipple, however, is rarely retracted, and the axillary glands much less frequently involved than in carcinoma. Soft sarcomata are more prone to return after operation. Fully forty-two per cent of patients thus af-

*Read before the Burlington and Chittenden County Clinical Society, March 26, 1909.

flicted die of recurrences or metastases, while only twenty-five per cent of the hard variety or of cystosarcoma are lost in this manner. The treatment is again operative and the safest rule is to remove both the breast and axillary glands.

The most frequent and dreaded tumor of the breast is carcinoma, which seems to be on the increase. This increase is noticeable in all countries. The percentage has nearly doubled in Prussia since 1877, and the same may be said of nearly all other countries. The primary cause of cancer of the breast is no better known than that of cancer in other regions. It certainly seems probable that those organs, which are subject to great changes both in size and the amount of tissue which is produced to meet emergencies, and which degenerates and is taken up after the emergency is past, are prone to reversion to embryonic stages; thus the breast and uterus are eminently liable to such diseases. It is also true that chronic inflammation produced by continuous mechanical irritation is a frequent cause. Carcinoma begins as a hard nodule infiltrating the tissues. It is peculiarly prone to metastasis, and spreads through the lymph channels; hence the early involvement of the axillary glands. The treatment for cancer of the breast is early and complete removal of the breast itself, the overlying skin, the underlying muscles, and the axillary glands together with the gland-bearing fat. If this is done fairly early, we may calculate to cure forty-five to fifty per cent of our cases, and could we get all cases early enough the statistics would be much better.

Following operation for carcinoma we too frequently find recurrences. These may occur along the scar as nodules, or they may be metastatic in the lungs, liver, spinal cord, etc. I have seen three cases during the past year in which the recurrences were in the spinal cord. When it recurs in the vicinity of the wound it indicates that we have not taken all the disease, or, that we have grafted the cancer cells while doing the operation. It is certain that this grafting can take place, and in our operations we should be extremely careful not to cut into the cancerous growth.

For the purpose of preventing recurrences by grafting, etc., the X-Ray has been advised. One case, Mrs. B., age forty-five, who came to me about three years ago with a large sloughing sore in her breast, had been X-Rayed for several months, or, until the man who X-Rayed her found that she had no more money. She was then sent to the hospital as it was said that no further good could be obtained from the X-Ray. Upon operation I had to ligate scarcely a vessel, and the tissues seemed bleached. The woman was exceedingly fat and a poor subject for healing; a radical operation was done. The axillary glands were involved, but were much smaller than usual when we consider the large sloughing sore. It was with great difficulty that we succeeded in healing the wound, but up to the present time there has been no return of the growth; a coincidence which is extremely unusual in a case so far advanced. The X-Ray had seemed to do some good by destroying the blood supply. I, therefore, approve of the use of the X-Ray following operation rather than preceding it. Our patients should return to us at least as often as once a month, and, should nodules appear, they should at once be removed as weeds from a garden before they go to seed.

In diagnosing growths of the breasts we should be extremely careful in calling one benign and another malignant. Some growths, which are distinctly benign in their early stages, undergo malignant degeneration later. No one can tell at what stage this change may occur. A tumor of the breast justifies early operation in all cases. If the growth is movable, incapsulated, and not infiltrating the tissues surrounding it, it may be removed alone, and a thorough microscopical examination will determine its true nature. If it should prove to be sarcoma or cystosarcoma, the breast should at once be removed, as has before been described. If it is found to be benign, you have done the right thing for these benign growths may at any time become malignant. If the growth is intimately mixed with surrounding tissues, infiltrating the same, and cannot be moved independently of them, it is best to err on the side of safety and do a radical operation. It is not safe to allow youth or the absence of pain to influence us in advising delay.

Cancer of the uterus may be divided clinically into three classes. First—Cancer of the vaginal cervix; second—Cancer of the cervical canal; third—Cancer of the uterine body. The same division can be made with relation to sarcoma; while malignant adenoma, of course, simply involves the gland-bearing tissue, or the inside of the cervix or uterus. For the purpose of de-

scription and diagnosis we may also divide the progress of carcinoma of the uterus into the stage of induration, the stage of ulceration, and the stage of destruction, or crater formation.

Let us speak first of all of the most common form of cancer of the uterus, namely cancer of the cervix. The idea of the causes of cancer hold here the same as elsewhere. The most common ages are between thirty-five and fifty, although many are afflicted younger, and some when older. Heredity plays no more part in the development of cancer than it does in tuberculosis. A possible tendency or weak resistance may be inherited or acquired. Child-bearing seems to be a frequent cause; in the average case the patient has had four or five children. Lacerations of the cervix do not cause cancer, and cancer is no more common in deep lacerations than in slight ones, but the cicatricial tissue, which is often present in these lacerations, tends to keep up a chronic irritation and inflammation; thus promoting cancerous growths.

One of the earliest symptoms of cancer of the cervix is hemorrhage. Early in the disease there is no feature of the hemorrhage from which it can be inferred that it is due to beginning cancer. It often occurs as a prolongation of the menstrual period frequently at an almost regular interval beween the periods, but most often as a muco-sanguineous discharge more or less constant, occurring at irregular intervals, provoked by any violence or irritation, having at first no disagreeable odor. Therefore any unusual hemorrhage should be a reason for a local examination. Usually between the hemorrhages there is a discharge described as the whites, which, as the case goes on, becomes extremely offensive. This discharge may be the first symptom. It is not characteristic or diagnostic, but simply suggestive, as other conditions can produce a like symptom. The only way of determining its true cause is by making a local examination. Such examinations should be imperative in all cases where there is an unnatural discharge.

Pain, which is so often spoken of as a symptom, is present early in only about one-half the cases; sometimes it comes late, and sometimes it is altogether absent. It is usually felt in the lower abdomen, sacral region, groins, and down the thighs. When limited to one side it is felt six times as often in the left as in the right side, because the nerves of this site are supposed to be more sensitive. Pain and hemorrhage are often in inverse proportion, as hemorrhage relieves congestion and, therefore, pain.

Loss of flesh and cachexia are late manifestations, and will not be emphasized in this paper. The value of history in the diagnosis should be largely eliminated, except as it relates to the symptoms just described. Age should not influence us in the slightest, and the absence of pain is no sign that a malignant growth does not exist. If we wait for pain, loss of flesh, and cachexia, we will certainly wait in many cases until they are hopeless.

Upon local examination the first evidence to inspection is an angry, livid red spot. The color deepens as the case goes on, becoming bluish at the points where sloughing is apt to occur, and the intense congestion often leads to hemorrhages into the growth before necrosis is sufficient to cause ulceration. It soon looks like a granulating patch, or may look like a growth of warts covered by a mucopurulent secretion, which when wiped away displays a bleeding cervix. Upon palpation the finger feels a rough, uneven surface with a hard indurated margin. It is friable, and small particles may be broken away with the finger nail.

The chief condition from whch cancer of the vaginal cervix has to be differentiated is the so-called "granular erosion." The latter is a flat adenomatous growth which may surround the external os, or may be limited to one lip. It has a soft velvety feel, and slopes off to the surrounding healthy tissue without any sharp border. Often on its surface you see portions of healthy mucous membrane, and red points of erosion may be dotted over the surface of the more healthy mucosa outside the main patch. This whole surface is of about the same color. It bleeds easily, but there is no ecchymosis or excavation, and no sign of sloughing. It is not friable and does not break down to the touch of the finger. If you are much in doubt, it is well to try a few treatments. One or two applications of strong carbolic acid will usually improve the condition, so that it will cease to bleed on contact, while if the growth is cancerous it will simply stimulate it to more rapid progress, and, hence, such experimental treatment should never be prolonged. At the same time treatment is being followed up it may be well to excise the suspicious looking spot or part of it, and send it to the pathologist. Unless

these sections are properly taken, the opinion of even an expert is of little value. They should be made crosswise of the cervix, taking out, if necessary, a wedge shaped piece and closing the wound with a stitch. If there is any doubt on the part of the pathologist, the behavior of the growth under treatment is more trustworthy.

Treatment for cancer of the cervix is a complete hysterectomy with removal, if necessary, of considerable vaginal tissue. Many cases have recovered which have simply had the cervix removed, but it is safer and full as easy to remove the uterus with its adnexa.

Cancer of the cervical canal is seldom recognized early. It more rapidly spreads beyond the uterus than either of the other forms. In this situation the beginning cancer cannot be seen or felt, and its initial symptoms are so slight that we seldom have an opportunity of diagnosing and treating it early. The same may be said of cancer of the uterine body only that it remains limited to the uterus longer, and is amenable to treatment somewhat later than that of the cervical canal.

Cancer of the uterine body occurs less frequently than that of the cervix; the ratio being one to fifty. It seems to be more common in people who have not borne children, and occurs rather later in life. The symptoms of cancer of the cervix and of the uterine body are similar. Pain in cancer of the fundus is a quite characteristic symptom, as the body of the uterus is more sensitive than is the cervix, and the projecting growth into the uterine cavity provokes painful contraction of that organ. The discharge early becomes fetid, and hemorrhage is usually the first and an early symptom. To make a diagnosis the cervix should be dilated and the interior of the uterus examined with the finger, if possible, or the diagnosis made sure by scraping away some of the friable new growth which can be examined microscopically. The only treatment for cancer of the uterus is a complete removal of the entire organ.

The importance of early diagnosis in cases of cancer, whether situated in the cervix or uterine body, cannot be too greatly emphasized. The lymphatics of the uterus and cervix are too small to allow the passage of the cancer cells; hence, metastatic growths are much less frequent and longer delayed than is true of cancer in any other portion of the body. When the growth has penetrated the uterine or cervical tissue, and has reached the cellular tissue about the cervix or in the mesometrium, where the lymphatics are large, we are seldom able to eradicate the disease.

It is a well known fact that there is more promise of a cure in early removal of cancer of the cervix or uterus than in any other form of cancer. If cancer of the cervix or uterus has gone beyond into the cellular tissue, it is better practice to curet away the diseased tissue cauterizing the cavity thus formed with a Paquelin cautery as deeply as you dare; thus removing sloughing tissue, relieving the discharge, and in every way improving the condition of the patient. The rule followed by many operators in determining whether a uterine cancer can be removed is to grasp the cervix with a volsella, drawing it down to the vulvar orifice. If this cannot be done, there is a probability that the broad ligaments have become involved, which can be determined by a vaginal or rectal examination while the cervix is thus drawn down. A good old fashioned method, too often neglected at the present time, is cauterization of the cancerous tissue before the uterus is removed. Here again we may graft cancer cells into the raw surfaces made during our operation.

Sarcoma of the cervix and of the uterus give similar symptoms to those of cancer or of fibroids. In doubtful cases when located in the cervix the sarcoma can be removed and examined microscopically. If situated in the uterine body, the curettings should also be examined. The only treatment for sarcoma is a complete extirpation of the uterus. Malignant adenoma is a rare disease. It resembles a hypertrophy of glandular tissue, and, if this seems to be greatly abundant and certainly if it recurs after operation, the entire uterus should be removed.

At this stage I would like to speak of a limited experience with the Cooley Serum treatment during the past three years. Of quite a number of cases for whom this Serum has been prescribed, I have been able to keep track of but eight. Of these eight, three were hopeless cases of carcinoma of the breast. In all of these I feel confident that the growth was temporarily checked and life considerably prolonged, and I have seen the cancer nodules diminish in size, and some of them disappear under its use. Two cases were carcinoma of the uterus with a like result. One is dead, having lived something over two years from the probable beginning of

the cancer. The other is still under treatment, more than a year having elapsed since the first curetting, when the case was considered hopeless.

One case of particular interest is a probable sarcoma of the body of the uterus and left ovary. It is of so much interest that I beg leave to report it. Mrs. M., age about forty, came to my office March 31, 1908.

She could scarcely walk, and complained of great pain in her left side. A mass fully as large as a good sized orange could be palpated. She had lost much flesh and showed marked cachexia. An exploratory celiotomy was advised, which I did at the Fanny Allen Hospital on April 2, 1908.

The case was found to be inoperable, the left side of the pelvis being involved, the entire left broad ligament, and the left portion of the uterus. The abdomen was closed and the patient made a good recovery. The pain was apparently relieved for about two weeks when it began to return. At the end of about three or four weeks the use of the Cooley Serum was begun, and carried on by her attending physician, Dr. Bidwell, of Waterbury. The pain soon ceased and the patient began to gain, until at the present time she is able to walk about readily, coming from the station to my office on foot, and walking about town. She has no pain, has regained her flesh, and the cachexia has disappeared. The mass has diminished until it is now less than one-fourth of its former size. The treatment is still continued. I regret that in this case it was impossible to get a section of the growth.

If you will excuse me I will now report the case of Mr. B., operated on at the Fanny Allen Hospital by Dr. Allen, December 31, 1908, for a greatly swollen, indurated mass in the left side of the neck, originating from the cavity of a decayed tooth. There were some portions of the growth which were broken down, and much pus was let out, and degenerated tissue curetted away. The report from the laboratory on this degenerated tissue was negative. For a time the patient improved, and it looked as though the case would recover, but the condition later spread to the right side of the neck and broke down again on the left side. On Jan. 22, 1908, I operated, as Dr. Allen had previously done, removing at the same time a considerable section of tissue which we sent to Dr. Stone. His report was that the tissue appeared to be that of a round celled sarcoma. The Cooley Serum was begun at once with marked improvement. The patient, who had been extremely pale and weak with great prostration and marked cachexia, regained his color and his strength, and returned home with good promise of a complete recovery.

It thus appears that the Cooley Serum will often check the growth of carcinoma, and will improve wonderfully, if not entirely cure, cases of sarcoma. In closing let me emphasize the important points of the paper.

The first is, that any tumor in a woman's breast warrants an operation, not next month or next year, but now. The second is, that any unusual hemorrhage, discharge, or pelvic pain demands a thorough local examination; every means being used to make a diagnosis and that when the diagnosis has been made of a malignant growth in any portion of the uterus it becomes imperative that an operation should at once be performed. If the case is strongly suspicious, but the diagnosis is not absolute, it is best to err upon the side of safety and not keep the woman under observation too long, but to operate at an early date.

INFECTIOUS DISEASES.*

BY
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It is now generally claimed that there is decreasing virulence in the infectious diseases; this, if true, is more axiomatic than proven fact, for wherever the assertion is made, it is not accompanied, so far as I can ascertain, by substantial statistical proof or verification of any kind. Nearly all statistics in the past have dealt with the mortality rate of disease and not fatality by which morbidity in a given epidemic can be arrived at. The relation of morbidity to mortality is what is really needed to judge of the virulence of disease.

Succeeding generations will, by reason of comparatively recent statutory enactments, be in a position to work out this theory to a mathematical certainty. There are some phases, how-

*Read before the Vermont State Medical Society, Rutland, Oct. 23-24, 1908.

ever, in the manner in which epidemics have occurred, as well as a few figures, which may bear out the theory that there is lessened virulence infections, at least amongst civilized races. I say civilized races, for its seems to have been true of most infectious diseases in past ages, that they have attacked a primitive people with greater violence than has been witnessed in such a people in succeeding generations. As bearing upon this, a short history of a few of the principal infectious diseases may be permitted.

The history of smallpox takes us back to remotest antiquity but more accurate accounts of its ravages are confined to comparatively recent periods. It was most rampant in Europe in the 18th Century, when, during most of this time, it formed one-tenth of the entire mortality of England. France at this period lost 30,000 people annually. In Prussia alone 26,646 deaths occurred in 1796. Of course smallpox was not then new to Europe. It appeared first in the Western Hemisphere in the West Indies in 1507, when whole tribes of natives were annihilated. The Lucayan Indians entirely disappeared from its ravages. It reached Mexico in 1520, and soon 3,500,000 were dead from it. In 1707, 18,000 died in Iceland out of a population of 50,000. In 1734, Greenland lost two-thirds of her population from smallpox. North America has been terribly scourged by this disease. McKenzie says of it among the Indians, "It was as a fire consuming the dry grass of the fields. The infection spread with a rapidity, which no flight could escape and with a fatal effect, which none could resist."

In the library of the Marquis of Buckingham, there is an ancient manuscript, written partly in Latin, but principally in the Irish language denominated the "Annals of Ulster," from which it appears that in 679 a grievous leprosy prevailed in Ireland, which was called "bolgach" and that the same distemper reappeared in 742. Whether or not this was smallpox, we know only that in Brian's Irish Dictionary, this word is translated smallpox. When Japan was first visited by Europeans, both smallpox and measles were found to exist. In the archives of the empire, it is stated in the chronicle relating to the principal events during the reign of King Siomu, 1737 A. D., that smallpox was very mortal in all parts of the empire. In great contrast to this has been our experience in this country with the disease more or less epidemic since 1898.

The statistics, as shown by the U. S. Marine Hospital Service give as the total number of cases for 1899: 11,136; number of deaths: 553; for the year 1900: cases 20,362; deaths 819. For the six months ending June 13, 1900: number of cases 28,257; deaths 486; from December 28, 1901 to June 13, 1902, number of cases 36,373; deaths 1154. These figures of course comprise only the experience of this service, but represent 43 states and territories, so that they reflect the general severity prevailing at this period.

Whether smallpox, unaffected by vaccination, is a milder disease now than formerly is a mooted question. Obviously, it is one which cannot be determined; Councilman says, "The decline in the mortality of smallpox from that of the 18th Century is to be attributed to vaccination solely. There is no evidence that the disease is growing progressively milder." The pandemic of 1901 and 1902 in the United States was characterized by a remarkably low death rate and such death rate in this country has so continued to the present time. The testimony of many physicians, however, seems to be that smallpox in the unvaccinated does not at present seem quite as virulent as in past years.

Diphtheria has been known under this name only since the disease was so accurately described by Brettoneau in 1821. History exists of epidemics of what was undoubtedly diphtheria since the Homeric Period of Grecian History. In 1517, it raged in Switzerland, along the Rhine and in Netherlands and in this century it crossed to America. In 1557, there were epidemics in France, Germany, Holland and Spain. In 1613 there was so great mortality in Spain that it was known as the "diphtheria year." Boston suffered early in its history—epidemics occurring both in 1735 and 1736. It was then termed "Throat Illness" or "Plague in the Throat". It caused so much alarm that the selectmen held a conference with the leading practitioners of the time regarding measures to prevent its spread. In 1847 there was an outbreak of sore throat in England, which was traced to Boulogne and called "Boulogne Sore Throat." Undoubtedly this was diphtheria. This disease has been described under so many different names in different countries that up to Brettoneau's time, morbidity and much less

fatality, is an impossible point to determine, but doubtless the severity was equal at least to what has been experienced in modern years. Jacobi says, "Epidemics differ. In some, mostly on account of mixed infections the mortality is high, in others it is low. The last few years, not through antitoxin only, have been decidedly favorable compared with many epidemics since 1858." The death rate in Massachusetts from 1856-1880 was 8.9%, while during the three five-year periods from 1881-1895 or up to the time of the commencement of the general use of antitoxin it was 8%, showing a slight decrease in mortality.

Although Scarlet Fever was known and described as such in the 16th Century, Ingrassias of Palermo, who lived from 1510-1580, observed an epidemic in Naples, which he differentiated from measles, yet when the disease appeared in various parts of Europe in the 17th Century, it was thought by many to be a new affection. Nola of Naples in the epidemic of 1610-1620 says in his descriptions, "Death often took place on the fifth or sixth day, although a fatal termination was not infrequent on the first day of the disease." Ingrassias further writes that, "The disease is often grave and fatal—Delirium and other threatening symptoms are often present, respiration becomes more rapid, and at length the abdomen swells, and the sick are not restored to their former health without much labor and after a long time. Often they die." A mild epidemic occurred in all Europe in 1790-1795 and a severe one from 1795-1805, 40,000 children, it is said, dying in Saxony alone.

It first appeared in North America in 1735 in the New England States. Epidemics have varied greatly. Massachusetts statistics show a gradual decline in death rate from 1866-1903 from a little under 7% to less than 2%. In Boston the ratio of mortality from scarlet fever to 10,000 people has declined from 11.22 from 1840-1876 to 2.61 during the period from 1876-1904, inclusive. Abbott says, "The death rate from this cause declined in England from 9 per 10,000 from 1866-1870 to 2 per 10,000 from 1891-1895. It also declined still further to 117 per million in 1899. A similar decline has been noted in many countries."

Perhaps with no other infectious disease has the virulence, when introduced to a virgin soil, been so exemplified as with measles. In the four months' epidemic of 1775 in the Fiji Islands, 40,000 natives, out of a population of 150,000, died from it. A similar fate was experienced by the Sandwich Islanders. As late as 1749, measles carried off 30,000 about the Amazon river; whole tribes becoming exterminated. The same high mortality was observed among the Indians about Hudson Bay in 1846, also among the Hottentots in 1854. The Tasmanians in 1871, the Mauritians in 1874 suffered likewise. In contrast to these epidemics may be cited the mortality in London in 1886, an average year, which was 1 to 2,000 persons. Abbott says that the death rate from this disease has declined in most countries, but not so markedly as in scarlet fever. In England, it was 315 per million in 1899 or the lowest since 1881. In Massachusetts, it was 159 per million in the twenty years from 1856-1875, and only 90 per million in the twenty years following.

A study of the statistics of recent years as to typhoid fever and erysipelas, when compared with epidemics of earlier times can bring us to but one conclusion and that of a greatly lessened mortality.

As to the general consideration of infectious diseases, it is shown that in nearly all countries, where registration records are kept, there is a remarkable decrease in death rate, while in diseases of special organs or local diseases there is an increased mortality; for instance, in Massachusetts, the group of diseases embracing smallpox, measles, scarlet fever, diphtheria, typhoid fever, cholera infantum, dysentery, consumption, whooping cough and the diseases incident to childbirth had decreased from a mean of 81.7 per 10,000 living in the 5-year period 1856-1860 to 50.5 per 10,000 living in the 5-year period 1891-1895. Longstaff in his *"Studies of Statistics,"* shows a similar change in England. In a long list of diseases in which a lessened mortality is shown in the 5-year period 1875-1879, as compared with the 5-year period 1850-1854 are included phthisis, fever (mostly typhoid), cholera, smallpox, scarlet fever and measles. Diphtheria and whooping cough had raised moderately during the same periods, the balance, however, with these diseases showing a decreasing mortality. It will be noted that no specific treatment, prophylactic or otherwise, had come into use up to this time, when the foregoing compilations were made, except vaccination for smallpox.

From the manifestations of epidemics in the

past; from the behavior of some of the infectious diseases, especially scarlet fever and measles, when brought to an aboriginal people; from statistics showing general disease in mortality and inferentially morbidity of infections; from the verbal testimony of living observers as to the trend of morbidity of disease; from the written testimony of such men as Jacobi, who said, "Not through the influence of antitoxin, only have the last few years been favorable in diphtheria" and of Hektoen, who, in discussing the question of the rising of microbic virulence on the experimental passage through resistant animals, pertinently raises the question: "Why does microbic virulence remain at a comparatively low level in nature and why are the mortality rates in infectious diseases falling rather than rising?"; from all the foregoing reasons, I am strongly inclined to the belief that most of the infections are of themselves less virulent than formerly.

The agencies, which have lent to ameliorate the severity of epidemics may be divided into two classes: those which lessen morbidity, *i. e.,* wholly or partially immunizing, thus modifying the character of the infection, and those agencies which lessen mortality in the infected by placing the host in the best possible condition to cope with the adversary.

In the first class, I would include vaccination for smallpox, and if the theory of lessened morbidity be tenable, then increasing natural resistance of the human race to infections or decrease in the virulence of bacteria and their toxins or both.

In the second class, would be included antitoxin for diphtheria, earlier diagnosis, better methods of general treatment, better nursing and better hygienic surroundings. The use of antitoxin as an immunizing agent, isolation, quarantine and what sanitary science has done to lessen the fevers, especially typhoid and yellow, cannot in a strict sense be said to lessen the severity of epidemics, although lessening mortality by their preventive influence.

No sane thinker can deny the results effected by partial immunization from vaccination for smallpox, instituted by Jenner at the beginning of the 19th Century; for example in London in the years 1761-1800, the mortality in successive decades was respectively, 24,234, 20,923, 17,867, 18,477, while in the first two decades of the 19th Century, or after general vaccination was begun, it was 12,534 and 7,856. Another striking result, so often quoted, was during the Franco-Prussian War in 1870-'71, it was a notable fact that the German soldiers were not only less frequently and less severely affected than the French, but that they were less affected than civilians of military age in the same towns. This was from the fact that all German soldiers under arms at the outbreak of the war had been vaccinated within two years. The value of the work of Edward Jenner can never be estimated; and that the greatest boon to mankind, ever discovered, prophylatic or remedial for the relief of disease should have been for smallpox the scourge of scourges, which in past ages has been more to be dreaded than all other pestilences combined seems nothing less than Providential, and yet to-day with volumes of incontrovertible evidence on the subject of the beneficence of vaccination, there are many so blind that they cannot, or will not, see.

As to what diphtheria antitoxin has done to lessen the mortality of diphtheria, Bayeux has made the statement based on 230,000 cases reported from all parts of the world that the death rate before antitoxin was used was 55% and that since its advent it has fallen to 16%. The death rate at Boston City Hospital proper, before antitoxin was used was from 1884-1894, 43.2%. The death rate from 1895 in the latter part of which year, the South Department was opened and antitoxin given to every patient ill with diphtheria, to 1904 included was 11.84%. Many other compilations, equally as striking, have been made in this country and others, showing the undeniable advantage of the use of antitoxin.

DISCUSSION.

Dr. H. D. Holton. The paper was certainly a very interesting one and Dr. Hammond has gone over the subject very extensively.

Infectious diseases are not prevailing in this state to the extent which they did twenty or even ten years ago.

The first cases of diphtheria in this country which were reported were in Albany, New York, in 1860, and were known as "Albany Sore Throat." It was traced eastward to Boston. Nothing was thought of its being contagious or communicable in any way. There was no attempt made to control it. It was very extensive and the mortality was very great. We have had in this state since last January two hundred forty-two cases of diphtheria. I am not able to state the mortality among that number. In 1863 one in twenty of all the inhabitants of Wilmington, Vermont, died of diphtheria. In Springfield one in eighteen died. To-day people are more

on the alert and antitoxin has had so much to do with its eradication that we must give it the highest praises, and quarantine has done a great deal in separating the sick from the well. I am sorry to say in Essex Junction for the last year or so there have been repeated cases of diphtheria, not an epidemic, but now and then a case. Why is this? It is entirely due, I think, to walking cases. Some one suffers from a slight sore throat; they do not deem it necessary to consult a doctor. This case is really diphtheria. They go about, here and there, and communicate it to other persons and so it goes from one to another. It was found in Burlington at one time by a careful inspection of school children attending school whose throats showed the bacillus of diphtheria. They were not sick, and had attended school regularly. These children were, however, excluded from school until their throats were clear. There is a disposition on the part of some of the physicians to always call a mild sore throat tonsillitis. One physician wrote me that he had several cases of contagious tonsillitis. I never knew of contagious tonsillitis. It was, no doubt, diphtheria. We class membraneous croup and diphtheria as one disease and when there is such a case, great care should be taken in destroying everything which was connected with the patient, in order to keep the disease from spreading. I want to impress upon you, the importance of being alert. There were more deaths from whooping cough last year than from scarlet fever, measles and diphtheria combined. Suppose a child begins to cough. He is supposed to have a cold. His mother does not call in a physician. She doctors him up a little but probably lets him attend school. Not until the child whoops is it evident that he is afflicted with whooping cough. The damage is done. The disease is spread to all with whom he came in contact. But even then, if strict quarantine is placed on the patient, a great number of cases will be arrested. A disease that destroys so many lives should be looked after more carefully.

Dr. E. R. Clark. As a health officer, I find a great many physicians do not seem to regard whooping cough as a serious affair at all. I know in our town during the last two years we have had as many deaths from whooping cough as from all other kinds of contagious and infectious diseases put together. We have had in our town but three deaths from any other contagious diseases during the last two years, June 1906, 1908. During the last year we have had two deaths from whooping cough and I find it is almost impossible to get people to understand that whooping cough is the serious disease which it is and that it has serious consequences and that the consequences are not limited to death alone. I simply want to urge the practitioners of medicine to be awake to the seriousness of this disease.

Dr. S. W. Hammond. I might say further in explanation, that it is not difficult to see that there is a decrease in mortality from infectious diseases. It has been proven. It is said also that there is a difference in the quality of infectious diseases of to-day as compared with former years and former ages. We hear it said that these diseases are not what they used to be; that they are not as severe; a goodly part of these assertions is based on lessened mortality alone. We have as our aids vaccine in smallpox;—antitoxin in diphtheria;—and what sanitary science has done in keeping down typhoid fever to lessen mortality; but is morbidity lessened also? This is decidedly difficult to prove. There are absolutely no statistics which are reliable which bear on this subject. Councilman said there is nothing to prove that smallpox is one bit less virulent to-day than in former times. If this decrease in virulence is seen in any diseases, it is in measles and scarlet fever.

DEMENTIA PRECOX.*

BY

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St. Johnsbury, Vt.

Dementia Precox is a term given by the German alienist, Kraepelin, to a form of insanity occurring generally from the age of puberty to 25 or 30 years and characterized by more or less enfeeblement of the mind upon which develops marked change in the violation, judgment and emotional sphere, with hallucinations, delusions, illusions, negativism, mutism, streotypy and gradual or acute dementia.

Many of the chronic demented insane in our insane hospitals come from this class of cases. The acute mental storm, marking the onset and first few years of the disease, leaves them with their minds a wreck, some hardly knowing their names, or showing any evidence of recognition of their friends. Many of the tramps roaming about the country, have at some previous time suffered from an arrested development of this disease, leaving them with their minds enfeebled and ambition gone.

The anamnesis in many instances show that there has been insanity or some eccentricity in the family; that the patient has often been of a quiet and retired disposition—often excellent scholars and of good habits; that the psychosis developed after some mental or physical strain, previous to which there had been more or less headache, insomnia and digestive disturbances.

The onset and course vary according to the type of the disease manifested, whether the catatonic, paranoid, or hebephrenic form. All three types have many symptoms in common, and it is according to the prominence of certain symptoms that they are classified into one of these groups. The emotional sphere is affected in all types. Indifference toward relatives and friends, senseless laughter and crying, effect of fear, stereotypy of language and actions, and

*Read before the Caledonia County Medical Society, July 14, 1908.

seclusiveness are common examples. The special senses suffer in varying degrees. Hallucinations of sight, hearing, smell, taste and tactile sensations influence greatly the patient's attitude. Some will refuse food because they see, taste or smell poison in it. Another will weep and become maniacal on account of visual, auditory, or tactile hallucinations. Ofttimes delusions develop upon these deranged special senses. Delusions of persecution, religion, grandeur, wealth, power, and influence all have their part in developing this abnormal personality. Impulsive acts are common. Reacting to morbid impulses they frequently steal, destroy property, burn buildings or torture animals. Their perception of external objects and impressions is very slightly impaired. While ofttimes they appear to be utterly oblivious to all their surroundings, in the lucid intervals that follow, they will tell of things said and done weeks and months before.

Patients belonging to the catonic group show the greatest deterioration of volition. In consequence, we see mutism and stupor most marked in this class. Often for weeks at a time they will not speak, fully conscious of all that is said to them. When a lucid interval comes, they will often explain their silence by saying they were commanded by some power outside themselves to keep silent, or they thought that by their silence they were performing some mission or beneficial influence upon those about them. For similar reasons negativism or resistance is met with when you ask or try to make them perform certain acts. Refusal of food is common, varying from a few days to months. During this time they must be fed with a tube, some resisting, others lying perfectly still. Long periods of apathy are often followed by short ones of excitement when they often become destructive, violent and noisy.

The paranoid form shows marked impairment in the field of judgment. They develop delusions of various types which have a tendency to become fixed and systemized. They can give reasons for their various delusions and will argue strongly to uphold them. To a casual observer they often appear sane. I have frequently had visitors say, "Why, that person is not insane." To this class belong a great many criminals, many coming from penal institutions to the hospitals for insane.

The hebephrenic form shows marked change in the emotional sphere. They take little or no interest in their relatives or friends—laugh or cry without cause—are apathetic and ofttimes seclusive. Stereotypy of actions and talk is frequently marked. They will perform some simple action or repeat some senseless phrase or sentence for hours at a time. Hallucinations and delusions are generally present at some period, but not so marked as in the paranoid class. It is from this class that we frequently see persons once bright and good scholars, gradually become dull and apathetic, without pride or ambition, this change taking place so gradually that many of their friends are at a loss to know what has taken place or come over them to make them so indifferent.

The following summaries are illustrative of the various types enumerated, and are taken from the histories of cases I observed while in the Hospital at Waterbury.

Case I is of the catatonic form. Psychosis in a man 26 years of age, common school education; occupation, farmer; civil condition, single. Paternal grandfather insane at 76, also one half brother who died in the insane hospital at Worcester, Mass. Normal birth, no convulsions, a fair scholar. When 18 years old had typhoid fever with delirium for 12 or 14 days; a slow recovery of five months. Soon after this sent to Chicago for medicine for sexual weakness, having read much quack literature on spermatorrhea; thought he could see semen in his urine and complained of nightly emissions. First symptoms of mental trouble manifested three years ago. Became depressed, would take jokes seriously. Became infatuated over a girl where he worked, but she had always been indifferent toward his affections. Lost his ambition, didn't do his work well; employer took him home and said, "He's off, his head isn't right." Became mute and refused food, stayed in bed three or four days at a time without eating or speaking to anyone; would get up and work a little for a few days, then have another period of depression. Told the family he wanted to die. Physician's certificate states: "Mental depression, impaired appetite, mute at times, frequent morbid spells for past two years. Pulse slow and weak; circulation bad; refuses to eat or drink; lies in bed; at times is morose, more of late." Committed

here on foregoing physician's certificate, September 29, 1900. Here showing negativism, refusing to take bath, or open mouth to have temperature taken. Refusal of food and mutism. Oct. 1, 1900. When asked regarding orientation as to time and place, looked at first one doctor then the other in a frightened manner, twisting his hands, breathing through his mouth in short, catchy breaths, hesitated for some time, would start to answer in a whisper, then stop. Finally said, "I don't know, my mind is wandering all the time." Later answered these correctly. Retrospective and penitent attitude, says he has done wrong a great many times and it makes him feel bad. Looked about the hall and said, "They're going to hang me, they're going to hang me. I ought to have given up the ghost long ago. I've done so much wrong." Oct. 4, '00. Fed with a tube, offered no resistance, refused medicine saying he belonged to an order that forbid him taking intoxicating drink. Has to be dressed and undressed. Oct. 25, '00, asked doctor if he had a revolver saying: "I wish you would use it on me; I feel as if I ought to be shot." Looked out of the window to a large hole dug for vegetables and said, "I believe they are going to kill me. They are digging that hole for me." Shows much religious fervor, reading Bible and praying much of the time. Oct. 29, 1900. More cheerful and talkative, expressed feeling of passivity; says he has been "hypthized through actions and motions." Admits hallucinations of hearing, says he heard voices telling him when to eat and when not to. Thinks they are the voices of spirits, "They told me to come home." Violent this morning toward nurses when prevented from going on to another hall. "I'm here to fight and I'm going to do it." Nov. 1, 1900 to Feb. 1, 1901. Has been in practically the same condition as during October. At times greatly depressed, staring blankly at the floor, refusing food, mute, resistive, combative, then becoming brighter, eating well and talking, more careful of dress. Jan. 7, 1901. True cerea flexibilitas, holding arms and legs in any position they are placed, and even the fingers when changed in their position remain where they are placed, conforming to the condition described by Kraepelin, "bent in any direction like a lead pipe." Held arms and legs in a horizontal position for ten minutes. Since admission has shown a gradual dementia. Etiology. Heredity—typhoid fever at 18 years. Duration—about three years. Prognosis—unfavorable—disease will doubtless progress rapidly to dementia.

Case II represents the paranoid form, although not of a marked type. Psychosis in a man thirty-two years of age, family history unknown, single, habits intemperate. Committed to Windsor, Nov. 1, '89, for burglary; sentence 3 years; transferred here Dec. 17, 1891, on the following certificate: "Is full of delusions, thinks someone is using electricity on him and stabbing him in the back. Has been sleepless nights and has times of being noisy in his cell. Thinks some one in his cell to injure him."

Here showing delusions of persecution, thinks wires are passed down from above at night and his brains are drawn up. Demands that this be stopped. Wants people to stop pouring Rochelle salt on his head at night. May 23, 1894. Delusions that monkeys and chipmunks are torturing him at night; that he is full of grass, lead and poison. Complains of being stamped by something during the night. Goes about the hall with his head tied up with a handkerchief. May 5, 1901. Delusions of poisoning, "I've been poisoned with fly poison sifted into my face." Has no insight into his mental condition. Memory for recent and remote events quite good.

Etiology: unknown.

Duration: ten years.

Prognosis: no hope of recovery.

Case III illustrates the simple or hebephrenic form. Phychosis in a man 34 years of age, common school education, single, occupation—farmer; habits said to have been good. Heredity denied. Physician's certificate states: "He imagines he is being poisoned by his father and claims to have blood poisoning. Knows it he says by his feelings. Can see poison upon his victuals and other things. His general appearance and talk show delirium of a dangerous grade. Is inclined to run away and hide. Is violent at times and smashes things in his way, and is considered dangerous to himself and those about him." Committed here on foregoing certificate October 12, 1900. Here, attitude, chin thrown forward, shoulders stooped, gazing at patients, walking about the hall and looking intently at pictures on the wall ,trying repeatedly to shake hands with all the other patients. Great motor restlessness, persisting in taking off and putting on his clothing, assuming different attitudes, kneeling, lying on floor, hands over head, etc. Disoriented as to time and place,

memory defective. Irrelevant in answer to most questions asked. At times is restive and violent, trying to choke nurse who was dressing him. Nov. 1 to 30th, emotional, sobbing and wringing hands, considerable flight of ideas. "I don't want to eat cats and dogs and kittens. There are oranges and bananas on the train my brother sent me. I'd rather go out on the battle field than stay in here." Defiles bed and clothing, masturbates frequently before nurses and patients. Gradually becoming more excitable and resistive, requiring constant watching to prevent injury to himself and others. Pulls his hair and runs against the side of the room, kicks and bites at nurses and doctors. Dec. 1 to 31, many short periods of excitement when it would take three nurses to control him. Appetite perverted, picks up anything he can find on the floor and puts it into his mouth, will take up chamber and drink contents. Frequently expectorates in his hands and rubs it on head. Precaution has to be taken to prevent his eating feathers which he pulls from his pillow. Jan. 1 to 31, 1901, has remained in practically the same condition as last month. Very untidy, spilling food on his clothes, frequently urinating in corner of room or in his hands and rubbing it on head. Eats and sleeps well.

Etiology unknown.

Duration: two months prior to admission.

Prognosis: grave; attack will probably end in marked dementia.

The prognosis is generally unfavorable, most cases ending in dementia. Of the three types, the catatonic form shows a greater number of remissions and recoveries.

There is nothing specific regarding the treatment of these cases. If seen early everything possible should be done to keep nutrition at its best. Sometimes a change of environment will help to tone up the nervous system and ward off an attack. Suggestive therapeutics are sometimes beneficial.

Lotion for Mosquito Bites.—According to Royet (*Lyon Medicalo*, a solution of calcium hypochlorite, of the strength of 1 per cent., is an excellent topical application for the relief of bites of mosquitoes and, in general, of all insect bites.—*Ex.*

POST-PARTUM HEMORRHAGE.

BY

LOUIS J. PONS, M. D.,
Roxbury, Conn.

A recent obstetrical case illustrates the uncertain results of labor cases.

Mrs. P., primapara, aged 25, weight about 110 lbs., of a rather frail constitution, was taken with labor pains on November 1. During the nine months previous her condition was normal and a natural confinement was expected. The delivery was rather slow, extending over 24 hours. A slight rupture of the perineum was corrected by two sutures. Crede's method was used to extract the placenta and the patient appeared in good condition, pulse 88. On inspection a few minutes later, considerable hemorrhage was discovered, a half teaspoonful of fluid extract Ergot was given and a hypodermatic injection of Strychnia 1/50, Nitroglycerine 1-100, Atropia 1.100. Waiting about 10 minutes and the flow increasing, another injection of Nitroglycerine and Atropia was administered. During the interval between the injections the foot of the bed was raised some 18 inches and a saline solution and transfusion apparatus prepared for use. The patient being almost exsanguinated, an arm was corded near the shoulder in order to make the veins more prominent. I was fortunate with little delay to push the needle into a large vein and gradually introduce about a quart of the solution. A smaller amount was also injected into the loose tissues under each breast. An enema of the solution was also given but this was quickly expelled. Caprenalin was administered in 20 drop doses, by the mouth, the pulse being 150 and nearly imperceptible. In about an hour the patient began to rally slowly and in 2 hours more pronounced out of immediate danger. Stimulants and Ergot were freely given during the next day. The diet consisted of eggs, beef extracts, milk, bovinine and iron in soluble form, and other suitable tonics prescribed.

The recovery was uninterrupted except for an abscess of the left breast which produced some fever for a few days, but which rapidly subsided on evacuation of three ounces of pus. This abscess developed about 3 inches from the puncture of the needle. The baby was placed on a diet of artificial food, as the condition of the mother would not admit of her nursing the child. Two months later the patient was in better

health than she had experienced in ten years. During a long practice I have attended several cases complicated by post-partum hemorrhage, without a death, but I think this case would not have survived but for the saline solution.

TUBERCULOSIS.

℞.
Compound Sptr. American Enthusiasm.
Fresh air continual.
Nutrition food (raw eggs, milk, etc.)
Absolute rest (in bed if possible) when temperature rises above 99.5.
Cleanliness.

Sig: In the above the dose is not specified as it is an unlimited amount for each ingredient.

Without enthusiasm even an incipient case will receive absolutely no benefit, with it, amid cheerful surroundings, all incipient cases will recover while advanced cases will in many instances check their emaciation and occasionally gain weight.

WM. H. GOMNELL, M. D.

TURPENTINE STUPES.—Turpentine stupes are very useful where a counter irritant is indicated or local stimulation needed. In renal congestion a stupe applied over the region of the kidneys and allowed to remain until slight vesication, will do a vast amount of good. In severe occipital headaches which result from hyperemia of the meninges of the cerebellum and upper part of the cord, a good turpentine stupe applied to the occiput and back of the neck should never be forgotten.—*Medical Summary.*

CHILBLAINS.—TWO USEFUL PRESCRIPTIONS.

I. The following application forms a protective skin, not unlike collodion, on the surface of the chilblain:

℞ Acid. tannic ..... 2 drachms.
Spirit vin. rect..... 4 drachms.
Acid. carbolic .....24 minims.
Aquam ad ..... 1 ounce.

Solve. Sig. "Paint on the chilblains night and morning."

II. A cream, which acts as an agreeable and efficient stimulant to the circulation is as follows:

Menthol .....15 grains
Methyl salicyl ..... 2 drachms.
Adipis lanæ hydr ..... 6 drachms.

Misce. Sig. "Apply a small quantity frequently, rubbing in gently until absorbed."—*The Prescriber.*

IMPOTENCE.—

℞ Camphoræ,
Quininæ hydrochloratis, aa gr. xxiv.
Ext. nucis vomicæ, gr. xij.
Tinct. cantharidis, *m* xxiv.
Oleoresinæ capsici, gr. iv.

M. Ft. pilulæ No. xxiv. Sig. One pill after meals.

Indication.—Used in debilitated subjects.—*New England Medical Monthly.*

INFANT FEEDING.—Giving infants some form of food that will be retained and cause gain in weight is not necessarily good infant feeding (G. R. Pisek, Am. Jour. Obst. & Dis. Women and Child.). The food must contain enough proteids and mineral matter to repair waste and produce new tissue, and enough fat and carbohydrates to supply energy; except, of course, when the infant is sick or suffering from indigestion, when it is necessary to give temporarily a one-sided diet.—*The Medical Times.*

INFLAMED IRIS.—The most stubborn and inflamed iris will yield and the pupil dilate if a leech be applied just back of the lid-fissure, and a small crystal of atropin be placed in the conjunctival sac. Avoid systemic poisoning by pressure over the inner canthus with the tip of the finger, occluding the tear-ducts and preventing the atropine-laden tears from running down the nose and being swallowed.—*Amer. Jour. of Surgery.*

LOTION FOR ACNE.—

℞ Potassii sulphuratis,
Sulphuris precipitati,
Zinci sulphatis, aa ʒj.
Aq., fl. ʒiv.

M. Sig. Apply externally night and morning.—*Jour. A. M. A.*

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

H. C. TINKHAM, M. D., B. H. STONE, M. D., ...*Editors.*
L. P. SPRAGUE, M. D. .....*Assistant Editor.*

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BURLINGTON, VT., MAY 15, 1909.

EDITORIAL.

The Council on Medical Education of the American Medical Association held its fifth annual conference in Chicago on April 5th. The object of this conference was to discuss the medical curriculum from the standpoint of medical educators and also from the standpoint of State Examining and Licensing Boards. Invitations were given to all medical schools and State Boards to send representatives to this conference and there was a large attendance, including representatives from a large number of both the Medical Schools and State Boards of the United States and from some Medical Schools in Canada.

Last year the Council on Medical Education of the American Medical Association appointed a committee of one hundred to prepare and present a medical curriculum for discussion at this meeting. This committee was chosen from the faculties of various medical schools of the United States and was divided into sub-committees of ten members. The subjects usually taught in a medical school were grouped under ten headings and each of these ten sub-divisions of the curriculum were assigned to one of the sub-committees of ten who had been chosen with special reference to their fitness to discuss this particular part of the curriculum. It is a notable fact that the curriculum suggested by the committee of one hundred does not differ materially from a medical curriculum suggested by the Association of American Medical Colleges some years ago.

Conferences of this kind by medical educators and members of State Boards should result in much good in bringing about a satisfactory condition of medical education and medical registration. The relation between these at present is most illogical and most unsatisfactory, imposing annoyances and hardships upon graduates of reputable medical schools without giving corresponding safeguards to the people of the commonwealth.

It is to be hoped that the time will soon come when confidence will be established in the work done in recognized medical schools.

The subjects of the Medical Curriculum with the number of hours teaching which the Committee suggested in each subject is as follows:

Anatomy, including Histology and Embryology	700
Physiology and Physiologic Chemistry	530
Pathology and Bacteriology	500
Pharmacology, Toxicology and Therapeutics	240
Medicine, including Pediatrics and Nervous and Mental Diseases	890
Surgery, General and Special	650
Obstetrics and Gynecology	240
Diseases of the Eye, Ear, Nose and Throat	140
Dermatology and Venereal Diseases	90
Hygiene, Medical Jurisprudence and Medical Economics	120
Total	4100

There seems to have been a decided change in feeling among medical educators in regard to medical teaching and the purpose of medical schools during the past year. The term "higher medical education" was not used once during the conference of the Council on Medical Education of the American Medical Association. Nearly every report of the sub-committees was prefaced with the statement that "the committee were unanimous in the belief that the function of medical schools should be to educate general practitioners, not specialists," and for this reason they recommended that teaching in the so-called special subjects be confined to such part of the special subject as the general practitioner should know, and that instruction should not be given in any special subject sufficient to lead the student to believe that he is qualified to practice that speciality without further preparation. This naturally suggests two classes of medical schools. First, medical schools that shall educate men to be general practitioners; and second, medical schools that shall continue the instruction in special subjects until the student is qualified to practice the speciality. It seemed to be the general idea among medical educators that the number of hours of teaching in a medical school should be reduced rather than increased. This is most satisfactory as it clearly shows that the whirlwind of sentiment for higher medical education has blown itself out and that medical educators are discussing the situation from a logical and practical basis, and we may expect a standard of medical education in this country which shall command the respect from abroad, serve the people well and still not be unreasonable in its requirements.

It should serve a good purpose to have representatives of state examining and licensing boards present at a discussion of the medical curriculum and the methods of medical teaching as they were at the Council on Medical Education of the American Medical Association held in Chicago last month. While they were not concerned primarily with anything except the "product of medical teaching"—the medical graduate—it must be useful in establishing confidence in the honesty of purpose of medical faculties and their earnest endeavor to give such teaching as will fit a man to practice medicine satisfactorily. It is unfortunate that conditions are such that practically all the teaching of medical institutions of this country is discredited and that graduates in medicine have to be examined to determine their fitness to practice medicine. It is more unfortunate that the boards who are to determine the fitness of medical graduates to practice are in the main composed of medical men who have had no experience in teaching medicine and who have had no training since their graduation in medicine to prepare them in any way for this most responsible position,—the fixing of the standard of medical education for this country.

From an educational standpoint it is to be regretted that state boards place so much importance upon certain details of education, as whether certain studies were finished before certain others are begun, the number of hours teaching in the various subjects, the number of days the college attended was actually in session, etc., etc., etc., failure to meet every one of the conditions imposed precludes the candidate from taking the examination. It is not a question of whether the candidate is qualified to practice medicine or not, it is a question of whether he received his medical education in the way that that particular board had prescribed, a matter of unimportant detail rather than of results.

If a state board is qualified to determine the fitness of a medical graduate to practice medicine

we see no reason why all medical graduates should not be admitted to their examinations, and if state boards are not qualified to determine that they should be replaced by those who are qualified.

Last year Mr. Elias Lyman resigned from the Board of Trustees of the University of Vermont to make a place for Dr. Kidder who was elected by the alumni as trustee. This was a magnanimous thing for Mr. Lyman to do, he believed in the representation of the alumni on the Board of Trustees and so made way for the newly elected Trustee. Dr. Kidder has made good and now we have an opportunity to show our appreciation of Mr. Lyman's self sacrifice for the interests of the University by re-electing him Trustee. He has always had the interests of the University at heart and has always worked for the advancement of the medical department.

NEWS ITEMS.

Dr. S. L. Goodrich has opened an office in Burlington, Vt.

Dr. L. B. Rowe has removed from Colchester, Vt., to Orwell, Vt.

Dr. C. K. Johnson has moved from Montpelier to Middlesex, Vt.

Dr. L. W. Parady has recently opened an office at Jacksonville, Vt.

Dr. Charles A. Packard, of Bath, Me., died at his home, April 6, aged 80 years.

Dr. M. E. Sargent, formerly of Essex Junction, Vt., has located in Putnam, N. Y.

A daughter was born to Dr. and Mrs. B. J. A. Bombard, of Burlington, Vt., April 26.

Dr. B. H. Stone has been elected Secretary of the Burlington, Vt., Board of Health.

Dr. E. H. Buttles has been appointed milk and food inspector for the city of Burlington, Vt.

The Massachusetts State Medical Society will hold its annual meeting at Boston, June 15 and 16.

The annual meeting of the Maine Medical Association will be held at Portland, June 16 and 17.

The power plant of the Sheldrake Springs, N. Y., sanatorium was destroyed by fire, April 20, with a loss of $10,000.

Dr. Ezra Mitchell, of Lancaster, has resigned as chairman of the Board of Trustees of the New Hampshire Sanatorium.

Dr. John H. Batis, of East Rochester, N. H., has been appointed county physician for Rochester, Strafford and Banington.

The banquet was held Thursday evening, May 14, at the Eagle Hotel, Dr. H. N. Kingsford of Hanover acting as toastmaster.

Mark W. Berry, a senior in the Medical Department of the University of Vermont died May 2 at Burlington, aged 27 years.

Mrs. Marie (Marengo) Murphy, wife of Dr. J. C. Murphy, of Shelburne, Vt., died at the Mary Fletcher Hospital, Burlington, April 24.

Dr. Foster P. Utley died at his home, Taberg, N. Y., April 6, aged 54 years. Dr. Utley graduated from the Medical Department University of Vermont in the class of 1883.

Dr. L. P. Sprague has resigned as medicolegal chemist of the Vermont State Board of Health Laboratory of Hygiene. Dr. Sprague will open an office June 1st at Chateaugay, N. Y.

Dr. Charles E. Lancaster, of Brunswick, Me., died on April 5, following injuries which he received by being thrown from his carriage. Dr. Lancaster graduated from Bowdoin Medical College in 1888.

Dr. Menora S. Marshall died at her home, Fruitvale, California, April 10. Dr. Marshall formerly practiced at Montpelier, Vt., and was a graduate of the University of Michigan.

A meeting of the Burlington and Chittenden County (Vt.) Society was held at Burlington, April 22. A paper, "The Diagnosis and Treatment of Initial Specific Lesion," was read by Dr. W. S. Reynolds of New York City.

The dedication of the Emily Smith Nurses' Home of the Elliot Hospital, Manchester, N. H., took place April 10. The building, the gift of Miss Emily Smith, was erected under the direction of Dr. and Mrs. George D. Towne at a cost of $20,000.

The quick action of Superintendent Dr. W. C. Kotz, and the other sanatorium officials averted a serious fire at the Vermont Sanatorium April 12. Fire broke out in the laboratory, which is located in the first floor of the building but was extinguished without serious harm.

Dr. Charles A. Drew, Medical Director of the Bridgewater, Mass., State Farm, has been elected superintendent of the Worcester City Hospital to succeed Dr. Thomas Howell. Dr. Drew is a graduate of the Medical Department University of Vermont class of 1880 and has had a wide experience in the directions of hospitals and other institutions.

The Coos County (N. H.) Medical Society held a meeting, March 17, and re-organized with the following officers: President, Dr. W. H. Leith, Lancaster; Vice-President, Dr. J. J. Cobb, Berlin; Secretary and Treasurer, Dr. F. W. Evans, Coos; Board of Councillors, Drs. E. Brown of Grovetown, W. H. Leith of Lancaster and L. B. Marcon of Berlin.

A suit for $25,000 damage for malpractice has been brought by James McBride, of Woodsville, N. H., against Dr. John C. Huckins, of Ashland, Dr. John Wheeler and Dr. Haven Palmer, of Plymouth. The plaintiff fell from a freight car last July fracturing his right shoulder which was amputated at the Emily Balch Hospital, Plymouth, by the above mentioned physicians.

At the fourth annual meeting of the Hillsboro County (N. H.) Medical Society, held in Nashua April 6, the following officers were elected: President, Dr. Eugene Wason, Milford; Vice-President, Dr. John H. Gleason, Manchester; Secretary-Treasurer, Dr. Ella B. Atherton, Nashua; Auditor, Dr. James B. Pettingill, Amherst; Delegate to the State Society, Dr. Frank E. Kitterage, Nashua.

The New Hampshire State Sanatorium for Consumptives is rapidly approaching completion, and will be open in the course of a few weeks. The administration building, one large ward building for females, and the heating plant are already finished. Another large ward building for males will be constructed as rapidly as possible, so that this institution will soon be open for the reception of patients.

The annual meeting of the Belknap County (N. H.) Medical Society was held April 20. The following officers were elected: President, Dr. E. P. Hodgden; Vice-President, Dr. F. B. Easton; Secretary and Treasurer, Dr. A. H. Harriman; Executive Committee, Dr. A. W. Abbott, Dr. W. H. True, Dr. E. F. Houghton; Counsellors, Dr. G. H. Saltmarsh, Dr. J. G. Quimby, Dr. John Huckins.

The new Franklin county public hospital and administration building located at Greenfield, Mass., are ready for finishing. The total cost will be $60,000, aside from furnishings, and of this $45,000 has been pledged or is in sight, counting legacies. The people of Greenfield and vicinity will have to contribute $15,000 more. The buildings are now open to inspection. When completed the hospital will be the equal of any in western Massachusetts.

The annual meeting of the Connecticut River Valley Medical Association was held at Hotel Windham, Bellows Falls, Vt., on Thursday, May 6, 1909, at 1 o'clock p. m. The following program was carried out: President's address, Dr. Stevenson, Chester, Vt.; The part played by Enteroliths in Acute Gangrenous Appendicitis with points on Diagnosis, Dr. Maynard, Burlington, Vt.; Chronic Prostatitis, Dr. Townsend, Rutland, Vt.; The early recognition and surgical treatment of Tumors of the breast, Dr. Anderson, Brattleboro, Vt.; Mental Therapeutics, Dr. Pierce, Greenfield, Mass.

The tuberculosis exhibition of the Vermont State Board of Health was shown at St. Albans, April 5 and 6; Newport, April 9 and 10; Barre, April 14 and 15; Montpelier, April 20 and 21; Windsor, April 27 and 28; Bellows Falls, May 6 and 7 and Rutland, May 11, 12 and 13. It will also be shown at Bennington, May 18 and 19. These meetings have been largely attended and much interest has been manifested. Drs. H. D. Holton of Brattleboro, W. N. Bryant of Ludlow, F. E. Clark of Burlington and B. H. Stone of Burlington have been the principal speakers at these meetings. Dr. E. H. Buttles of Burlington has charge of the exhibit.

Included in the extensive additions which have been made during the past year to the Mary Fletcher Hospital, which have more than doubled its capacity, is a building devoted entirely to the surgical work of the hospital and the clinical work done in connection with the College of Medicine.

The large increase in the out-patient department has made it necessary to provide rooms especially for this work and one floor of this building is practically given up to the out-patient department. There is a large waiting room for patients and several smaller rooms where the patients are examined by sections of the graduating class under the direction of the physician in charge. A private stairway connects this department directly with the waiting room opening in the clinical amphitheater, so that patients can be taken from the out-patient department directly to the general clinic.

On this floor, which is on the level with the first floor of the hospital, there are, in addition to the clinical amphitheater, two operating rooms for the regular hospital work, there are also rooms for giving anesthesia, sterilizing rooms, dressing rooms, etc., etc. This building is fire proof and has been constructed according to the modern idea of asepsis and meets the needs of the hospital in every way. The clinical amphitheater has a splendid north light and is so constructed that each student has an unobstructed view of the table. This amphitheatre is furnished with all the modern conveniences for medical and surgical work and makes a valuable addition to the teaching facilities of the College of Medicine.

The one hundred and eighteenth annual meeting of the New Hampshire Medical Society was held at Concord, May 13 and 14, with the following program:

Thursday, May 13, 1909

General Meeting, 11 o'clock a. m., called to order by the President
Prayer by Rev. W. Stanley Emery
Report of the Committee on Arrangements by C. H. Dolloff
Appointment of the usual Committees
Introduction of Visiting Delegates
The President's Address—John M. Gile, Hanover
Surgery of Stomach—
John B. Deaver, Philadelphia
Discussion opened by
Ira J. Prouty, Keene
M. E. Kean, Manchester
Some Recent Items of General Interest in Neurology—Albert E. Brownrigg, Nashua
Discussion opened by
Thomas D. Luce, Portsmouth
Frederick L. Hills, Rutland, Mass.

Thursday, 2 p. m.

The Legal Liability of Physician to Patients—
M. D. Cobleigh, Esq.,
Solicitor, Grafton County
Discussion opened by
E. O. Crossman, Lisbon
Hon. James W. Remick, Concord
Care of Surgical Cases Before and After Operations—L. B. Morrill, Centre Harbor
Discussion opened by
F. L. Hawkins, Meredith
A. H. Harriman, Laconia
The Development of Milk Laboratories in Regard to what Food Stuffs they can Provide, and their Relation to the Principles of Infant Feeding—
Thomas Morgan Rotch
Professor of Pediatrics, Harvard University
Discussion opened by
Chas. D. Howard, Concord
Ella B. Atherton, Nashua
Milk and its Relation to Disease—
H. W. N. Bennett, Manchester
Discussion opened by
George C. Wilkins, Manchester
John H. Neal, Portsmouth

Tubercular Hip Joint Disease—
N. W. McMurphy, Gilmanton
Discussion opened by
A. H. Harriman, Laconia
R. J. Graves, Concord

Friday, 9.30 a. m.

Hydrotherapy—John B. Macdonald, Concord
Discussion opened by
C. P. Bancroft, Concord
C. R. Walker, Concord
The Fashionable Shoe as worn by the Human Foot, seen through the X-ray—
A. F. Wheat, Manchester
Discussion opened by
F. N. Rogers, Manchester
John G. W. Knowlton, Exeter
The Responsibility of the General Practitioner and the Specialist in the Prevention of Deafness—Francis P. Emerson, Boston
Discussion opened by
L. W. Flanders, Dover
Geo. A. Weaver, Warren
E. M. Miller, Woodsville
The Hygienic and Physical Exercise Treatment of Cardiac and Neurasthenic Cases—
John W. Bowler, Hanover
Discussion opened by
John C. O'Connor, Manchester
H. N. Kingsford, Hanover
Empyema— E. E. Lake, Hampstead
Discussion opened by
John H. Gleason, Manchester
Henry L. Stickney, Manchester

BOOK REVIEWS.

Constipation and Intestinal Obstruction.—By Samuel G. Gant, M. D., LL. D., Prof. of Diseases of the Rectum and Anus in the New York Post-Graduate Medical School and Hospital. Octavo of 559 pages, with 250 original illustrations. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, $6.00 net; Half Morocco, $7.50 net.

The writer enters thoroughly into the anatomy of the intestinal tract and the physiology of peristalis and defecation. Then with this basis, proceeds to a discussion of the etiology of the various forms of chronic constipation with obstructive and non-obstructive constipation of various types. He then considers the treatment of these conditions discussing in turn education and prophylatic, psychic, dietetic, exercise and bodily movements, hydrotherapy (internal and external) massage, mechanical vibration, electrical and other physical procedures and finally the medical treatment.

Acute constipation and the surgical treatment of mechanical constipation and its consequences are given considerable space. The work covers the important subject in a much more complete and comprehensive way than any other publication that has come to the writer's attention and we consider it a very valuable addition to medical literature.

Cosmetic Surgery.—The correction of featural imperfections. By Charles C. Miller, M. D. Second Edition enlarged. Including the description of numerous operations for improving the appearance of the face. 160 pages. 96 illustrations. Prepaid $1.50. Published by the author, 70 State St., Chicago.

This little volume devoted to featural surgery follows the same general lines as the first edition. The growing interest in this branch of surgery is attested to by the fact that a second edition has been called for in so short a period. While the field of electric surgery of the face for the correction of featural imperfections which are not actual deformities must necessarily be limited, it already has a permanent place in surgery. Dr. Miller's book is doubtless the best one on the subject and one is surprised that he can cover the ground so thoroughly in so small a volume. It is profusely illustrated and the descriptions of the operations are clean and concise.

We wish to acknowledge the receipt of the following books: *Mortality Statistics, Department of Commerce and Labor, Bureau of the Census,* S. W. D. North, Director. Eighth Annual Report, Washington, 1909.

Eradicating Plague from San Francisco. Report of the Citizens Health Committee and an Account of Its Work. With brief descriptions of the measures taken, copies of ordinances in aid of sanitation, articles by sanitarians on nature of plague and the best means of getting rid of it, facsimiles of circulars issued by the committee and a list of subscribers to the health fund, March 31, 1909. Prepared by Frank Morton Todd, Historian for the Committee.

Transactions of the Tenth Annaul Meeting of the American Proctologic Society, held at Chicago, Ill., June 1 and 2, 1908.

Transactions of the Tennessee State Medical Association, 1908. Tennessee State Medical Journal.

The Prevention of Blindness.—A movement which is full of promise for happiness to many hundreds and thousands of children yet unborn was started not long since and has already grown to very large proportions. This is the effort being made by ophthalmologists, obstetricians and sanitarians to bring home in a forcible manner to both physicians and the laity the absolute necessity of guarding the eyes of the newborn against the sight-destroying specific ophthalmia. One of the most recent agencies in this propaganda is the Special Committee on the Prevention of Blindness of the New York Association for the Blind, the establishment of which was rendered possible in the spring of 1908 through the generosity of a lady in this city. The object of this committee is to ascertain the direct causes of preventable blindness and to take such measures as may lead to the elimination of these causes. The prevention of ophthalmia neonatorum is the principal aim of the committee, and they seek full co-operation with the medical profession, the State and city boards of health, the state and county societies and all organizations or persons interested in the subject. This committee has recently issued the second of its pamphlets for popular instruction, appealing strongly to the reader through pictures of sightless children who need not have been blind. This will doubtless be a strong ally of the purely medical organizations already active in the campaign of education regarding preventable blindness.—*Medical Record.*

To Remove Blackheads.—To remove blackheads which turn into pimples bathe the face every night for 10 minutes in very hot water, sponge off with cold water, gently dry and rub on the following ointment. Give the following or a similar tonic:

℞ Acid salicylici .....gr. x.
Hydrarg. chlor. mit. .....℥j.
Ung. aquæ rosæ .....℥j.

M. Sig.—Rub a small portion well into the skin.

℞ Acid hydrochlor. dil. .....℥ij.
Tr. nucis vomicæ .....℥j.

M. Sig.—Fifteen drops in a glass of cool water after each meal. Take through a glass tube.—*Medical Summary.*

Blames School System for Deaths.—Dr. Thomas Darlington, Commissioner of Health of New York City, states that heart disease among school children is greatly on the increase. Of the defective children in the schools that have been examined 3500 had heart disease in some form. During the past two years 1234 children have died of heart disease and only 131 of these were under 5 years of age. With the beginning of school life the rate increased from 28 at the age of 4 years to 286 at the age of 15 years.

Migraine.—It is doubtful whether there has yet been found a drug more efficient for the relief of migraine than cannabis indica. Twenty drops of the tincture, three times a day, should be given. I have just discharged a case where the attacks came three or four times a week. During and after the use of a two-ounce bottle she has remained well for some months.—Dr. Wolf, *Medical Summary.*

Alleged Neglect.—A case of interest to the medical profession and others has just been concluded in Perth. Andrew Gunter, a miner, of Day Dawn, claimed 1000 pounds, sterling, damages from Dr. R. Earle Newton, of Perth, and Nurses Mouritz and Davis, of St. Omer Hospital, for injuries alleged to have been caused to him by the defendants through negligence. Eighteen months ago Gunter underwent an operation, a hot-water bottle was placed to his feet, when he exhibited signs of collapse, and this, it was alleged, was carelessly allowed to become uncovered and burn his feet, with the result that they had been bad ever since, and he was in consequence unable to work for a long time, and even then could not undertake his former duties. The case had been remitted from the Supreme Court to the Local Court, and the magistrate considered that there had been neglect, inasmuch as the water-bottle had not been noticed by the nurses who had the care of the man who was in an unconscious state when the bottle was first applied to his feet. He (the magistrate) took into consideration the fact that the plaintiff had been able to do light work and that the nurses did not charge him for sixteen weeks of the time he was in the hospital. He considered plaintiff was entitled to 50 pounds and costs against the nurses.—*The Australian Medical Gazette.*

AN EPITOME OF CURRENT MEDICAL LITERATURE.

PENETRATING WOUNDS OF THE ABDOMEN.

FLOYD W. MCRAE, M. D. (*New York Medical Journal*, March 13, 1909), concludes as follows: In civil practice every suspected penetrating wound of the abdomen, under favorable conditions of practice, should have the benefit of wound tracing. (Laying open the wounds of entry and exit and the intervening portion). When the wound proves to be penetrating, an exploratory laparotomy should be done at once, and visceral drainage excluded or repaired as far as practicable. There is far less danger from wound tracing than from probing or masterly inactivity, while awaiting positive evidence of visceral drainage requiring operative interference. Local toilet with moist sponging for cleansing is better than free peritoneal irrigation. When in doubt it is safer to drain. Operations done within two hours should not give a mortality over twenty-five to thirty per cent.; within four hours over forty per cent.; within six hours over fifty per cent.; within eight hours over sixty percent; within twelve hours over seventy per cent. After twelve hours expectant treatment is best, unless there are some definite indications for operation.

UNUSUAL CASES OF BROMIDE ERUPTION IN CHILDHOOD.

FRANK CROZER KNOWLES, M. D. (*New York Medical Journal*, March 20), discusses bromide eruptions together with cases and gives the following summary: Bromide eruption may occur in those who are susceptible, independent of the dose of the drug or the length of the administration. The larger the dosage, and the longer the ingestion, the greater is the chance of an outbreak. There are practically no constitutional or unobjective symptoms in most cases. Because of the slow elimination, the eruption may continue to appear for some weeks after the drug has been discontinued. Almost any type of eruption may be present; in childhood the lesions are usually larger and more persistent than in adult life. The extremities and face are the parts most frequently attacked; the most extensive eruption, in a majority of cases, occurs upon the legs. Lesions have a great tendency to occur at points of previous inflammation, such as on vaccination scars, injuries, etc.

SURGERY OF THE BILE PASSAGES WITH SPECIAL REFERENCE TO THE END—RESULTS.

JOHN C. MUNRO, M. D. (*Boston Medical and Surgical Journal*, March 25), concludes: 1. An analysis of our cases demonstrates that jaundice is present in a majority of all, even the simple gall-bladder cases at some time; that a very large majority of common duct cases have jaundice. 2. That the pancreas is not infrequently pathological, as determined by examination of the open abdomen. 3. That adhesions are present in a large majority of cases and may be the direct cause of symptoms rendering all medical treatment more than futile. 4. That pulmonary complications must be reckoned with in prognosis, but that they are less frequent than anticipated. 5. That cholecystostomy is normally a more suitable operation than cholecystectomy, unless the gall bladder is definitely functionless. 6. That recurrence of symptoms may be due to adhesions or a contracted gall bladder as well as to overlooked stones. 7. That toxemic cases are best treated medically until the acute stage is passed. 8. That capillary hemorrhage may be controlled to an extent not yet determined by the use of fresh animal serum.

BLOCKING STONES IN THE LOWER END OF THE URETER.

J. J. BUCHANAN, M. D. ("*Medical Record*." March 20), considers some practical points in the diagnosis of stones in the uretus and cites three cases. He concludes as follows: The diagnosis between an acute attack of appendicitis and stone in the right ureter is sometimes impossible. If the acuteness of the attack is such as to require immediate operation, in case the condition should turn out to be appendicitis, the immediate removal of the appendix is indicated, which being under these circumstances a harmless operation removes the immediate danger. The diagnosis by the X-ray, in competent hands, is accurate and satisfactory, and every doubtful case should be submitted to this test. Every part of the ureter can be exposed by the extraperitoneal operation, which in a patient in an ordinary condition, seems to be practically free from danger.

HUMAN AND BOVINE TUBERCULOSIS.

F. M. POTTENGER, Monrovia, Cal. (*Journal A. M. A.*. March 27), reviews the points of difference and resemblance between human and bovine tuberculosis bacilli, stating the opinions of others and giving the results of his own observations. He believes that we are warranted in assuming that these bacilli are not only different, but antagonistic, though originally from one parent stem. He makes a comparison between cowpox and smallpox, and believes that the same immunity can be conferred, though with greater danger, by children taking in bovine bacilli in small numbers. His experience has taught him, if he interprets his observations correctly, that few patients do equally well on treatment with both forms of bacilli; some are improved by one and irritated by the other. Pottenger considers it fairly established that human and bovine bacilli are different and that cattle can be immunized against bovine bacilli by innoculation with moderate numbers of human bacilli. Their resistance, however, can be overcome by overwhelming or prolonged infection. Human beings are sometimes infected with bovine bacilli. Reasoning from all the facts, he concludes that the toxins of the two forms are different, but, judging from the reaction to the infection from the two types, it appears that both are able to produce tuberculosis in the human body, but that the localization of the two infections is more or less constant. It has been found that infections of the lungs, larynx, and intestines are best treated by tuberculins as a rule made from bovine bacilli. These infections are most probably of human origin. Infections of the bones, glands (as a rule), peritoneum (with effusion), ear and genitourinary tracts as a rule are best treated by tuberculins made from human bacilli. These infections are probably produced by bacilli of bovine origin. Reasoning from the analogy, the fact that human bacilli will immunize cattle against infection with bovine bacilli would suggest that bovine bacilli might immunize human beings against human bacilli; and, if our belief that tuberculosis of the bones is of bovine origin is true, and our observation that per-

sons suffering from bone lesions rarely suffer from tuberculosis of the lungs is correct, we have clinical evidence which supports the fact that immunity in human beings against human bacilli may be produced by infection with bacilli of the bovine type.

TUBERCLE BACILLI IN MILK.

The results of a study of the incidence and type of tubercle bacilli in New York City milk and the health of the consumers are published by A. F. Hess, New York, in the *Journal A. M. A.*, March 27. The samples were taken from the large forty-quart cans which constitute a large proportion of the municipal supply and are often the same as the bottled milk. In 107 samples 17, or 16 per cent., were found, by inoculation tests on guinea-pigs, to be tuberculous, tubercle bacilli being found in the guinea-pig on autopsy. Tubercle bacilli were not discovered by direct miscroscopic examination, but only by animal inoculation; cream, as well as sediment, was found infective. Tubercle bacilli were also detected in a sample of "commercially pasteurized" milk, claimed to have been heated to 160 F. for 40 seconds, showing that this name is misleading and suggesting that only such milk be called "pasteurized" as has been heated for a length of time and to a degree sufficient to insure its being a safe food. In all but one instance the bacilli found were of the bovine type. In the exceptional case a human type was found, showing that human contamination of milk is possible and must be guarded against. A number of infants and young children who drank milk containing tubercle bacilli, when examined one year later, seemed in average health. A fourth of the number, however, reacted to tuberculin. One of them was in poor physical condition and had suffered from a recent glandular affection. Probably 90 per cent. of human tuberculosis is due to infection from human beings, but we are not, therefore, justified in neglecting the danger from the bovine source, as even a very small percentage from this cause means thousands of cases. As an immediate safeguard, Hess recommends pasteurizing or boiling all milk not coming from tuberculin-tested cows. There should be a great many more inspectors of herds and finally all cows should be tested with tuberculin, and; if found reacting, should be condemned or isolated.

THE HOME TREATMENT OF TUBERCULOSIS.

C. L. Minor, Ashville, N. C. (*Journal A. M. A.*, March 6), speaks of the necessity of applying the same hygienic and disciplinary measures in the treatment of tuberculosis at the patients' homes as in sanatoria. These include, reduced to their simplest terms: First, the personal medical oversight of the patient, which Minor thinks can be accomplished by seeing him two or three times a week, and when he becomes sufficiently well trained, once a week may be sufficient. If the patient can be made to keep a diary giving not only his physical condition but also his acts and, so far as possible, his mental life, and have it shown to the physician on each visit, the supervision can be rendered so much the more effective. Second, discipline and supervision, which depend largely on the personality of the physician aided by the good-will and cooperation of the patient. Third, instruction. In tuberculosis the relation of the physician and his patient is in one aspect that of teacher and pupil, the patient seeking not only renewed health but also instruction as to what will enable him to keep it. In tuberculosis, the patient should understand something about his disease, and while it is not desirable for him to know too much, he will fight it more intelligently if properly instructed. He will lose, of course, outside of a sanatorium much of the instruction that he would receive from the example of his fellow patients, but nevertheless much can be done in this line. Fourth, systematic and hygienic living. While it will be more difficult than in a sanatorium, it can be secured if the patient is intelligent and the doctor is painstaking. Fifth, nursing. In incipient cases a nurse is not at all necessary, save in some intercurrent condition, such as an exacerbation or hemorrhage, and the patient is better for being obliged to care intelligently for himself. In advanced cases, of course, a nurse is a comfort and an essential. Sixth, location, housing and feeding. These depend on the patient's financial means, but in large towns public benevolence and tuberculosis dispensaries have done much to ameliorate the conditions of the poor consumptive. The physician, however, should keep close track of these points. Seventh, climate. This of course also depends on financial conditions, but the last two or three years have shown us how much can be done even under relatively unfavorable conditions. Much can be accomplished by a painstaking, interested physician who is also a good teacher. Eighth, effect other point where home treatment can not equal that in a sanatorium and it will be advisable for the physician if possible to put his patients, recognizing social conditions, etc., in a well-managed house if not in a regular sanatorium, rather than leave them in their homes. Taking it all together, Minor believes that, save for the beneficial influence of example and climate, all the conditions attained in sanatoria can be secured for all except the very poorest class and the criminal poor. The psychic treatment may be approached from two standpoints, that of the patient and that of the physician. The qualities needed by the patient, in the order of their importance, are: (1) Will power and determination; (2) earnestness and purposefulness; (3) cheerfulness and patience; (4) intelligence and interest. A weak-willed or frivolous patient is less promising, so far as these qualities predominate. Cheerfulness is not so essential but is a valuable aid and in so prolonged a disease as tuberculosis patience is a great advantage. The lack of intelligence in the patient is a great drawback and, other things being equal, the results are infinitely improved when the mind is alert and keen. The social and financial conditions also have a bearing on the treatment. The best results may be expected from those having more normal social ideals, cultivated and intelligent but not too much bitten by the society bee. Those below a certain class make the poorer patients owing to their inability to put into practice customs and habits alien to their past training. A crusade against the hygienic condition of the average work shop and the filthy spitting habits of the average workman will have to be undertaken. Patients so low financially and socially that they can not secure the proper conditions under any circumstance or appreciate them if obtained, should be taken care of in charitable institutions and should never be returned to their former surroundings if they recover. In conclusion, Minor speaks of the importance of the first interview in gaining the patient's confidence and obedience and in establishing proper relations between the physician and patient and also the importance of the personality, teaching ability and enthusiasm of the physician.

PURPURA HAEMORRHAGICA; IS IT CAUSED BY THE COLON BACILLUS?

STEPHEN J. MAHER, M. D. (*Medical Record*, March 20, 1909), answers this question by citing a fatal case together with the laboratory work. The important points are thus summarized. 1. The recently extravasated blood of his case of malignant purpura haemorrhagica contained clumped in its leucocytes, bacilli having the cultural and other characters usually ascribed to the colon bacillus. 2. The bacilli isolated either from the fresh blood or from the old blood, had the power on intraperitoneal injection into guinea pigs, not only to kill the animals in a few hours, but to produce on the wall of the animal's intestines and stomach purpuric patches identical in appearance with those that characterized the disease in the human body. 3. This power to produce purpuric patches on the walls of the intestines of the inoculated animal was striking and constant even after the bacillus had passed through four series of guinea pigs. 4. This power was diminished in the cultures that had been kept eight days or more in the incubator. 5. The white rat succumbed in exactly the same way as the guinea pigs when injected with the bacilli which had been through four guinea pigs. The colon bacillus, although usually fatal to injected guinea pigs does not kill so quickly and does not cause the appearance of purpuric patches on the intestinal and stomach walls of the injected animals.

A FLEXIBLE METAL CATHETER.

HENRY M. CHASE, M. D. (*Boston Medical and Surgical Journal*, March 4, 1909), describes a silver catheter which he has designed. He gives the following advantages. It has a definite caliber which will not change. The caliber is larger than other forms. Drainage, through an opening on the end and on the concave side of the catheter may be perfect during its time of application. A small drainage opening on the side insures against any fluid collecting in this lower space. It can be easily inserted. Its time of removal is governed absolutely by the desire of the surgeon and not from force of adverse circumstances, such as blistering, kinking, etc. Its flexibility allows it to conform freely to any desired position. It can be perfectly sterilized and repeatedly used.

THE PRINCIPLES OF MECHANOTHERAPY WITH SPECIAL REFERENCE TO THE TREATMENT OF ORTHOPEDIC CASES.

C. HERMANN BUCHLOG, M. D. (*Boston Medical and Surgical Journal*, March 4, 1909), discusses the value of mechanotherapy in prophylaxis, as a preparatory treatment; as the main treatment; as an after treatment. He concludes that it must be considered as an essential factor in the treatment of many orthopedic conditions. The result obtained from it will depend in a great measure on the correct use of the methods and the experience of the surgeon and his assistauts. The treatment must be elaborated for each case, according to the anatomical physiological and pathological conditions. The most important instrument in mechanotherapy used in orthopedics is the hand of the surgeon, but for several conditions apparatus is required for treatment. For a hospital with a large out patient department, it is a pre-eminent advantage to have at its disposal a medico mechanical department fitted with apparatus, such as Lander's where the treatment, singly or in classes, and under expert direction may be carried on in a varied way.

ALCOHOL—PHYSIOLOGICAL ACTION AND THERAPEUTIC INDICATIONS.

E. R. ZEMP, M. D. (*New York Medical Journal*, March 6, 1909), summarizes his discussion as follows: Alcohol is a narcotic poison. It is not a stimulant in the true sense of the word. It is not a food. It is a useful drug when properly "used." It is a drug that has been terribly abused. Its use requires as much intelligence and judgment as does the use of any drug. It is not an antidote to carbolic acid. It is a source, in proper amounts, of easily assimilated energy. In small quantities it aids certain forms of indigestion. Locally it possesses values often overlooked. The odor of alcohol on the breath is no criterion as to whether the patient is getting too much or not. In the usual manner of administration it does more harm than good. The subjective symptoms of the patient under the influence of alcohol no more indicate his true condition, than do those from morphine. The drinking of whiskey to keep from catching cold or to prevent serious results from snake bites, is a delusion and a snare. When sufficient food is lacking, alcohol in small amounts will prevent body waste, by conserving the tissues. The drinking of whiskey in health is a pleasant but entirely uunecessary and wasteful form of amusement. The habit fixing propensity of alcohol should always be kept in mind by those who prescribe it.

A STUDY OF ALCOHOLISM.

GEORGE B. LAWSON (*New York Medical Journal* March 6, 1909). summarizes his treatment as follows: Restraint sufficient to prevent the patient doing himself injury. Feeding predigested and easily digestible foods, probably best in combination with hydrochloric acid. Elimination by catharsis and intake of abundant fluids. Certain other methods of treatment, such as the use of hypnotics, alcohol, ergot, digitalis, and strychnine, are still in more or less doubt as to their value.

CONSERVATISM IN SURGERY.

J. E. MOORE, Minneapolis (*Journal A. M. A.*, March 20), objects to conservatism as out of date in surgery, but thinks it is still too much in evidence. Some cases of empyema are still being treated medically or with the aspirator; tumors of the breast are often neglected, in spite of the fact that 80 per cent. of them are malignant; appendicitis is still being trifled with and typhoid and other intestinal perforations are commonly neglected till the last chance is lost. When conservatism was the rule the mortality rate from bowel obstruction was 95 per cent.; this has been reduced to 45 per cent. by progressive surgeons and could be still further reduced if the habit of waiting could be overcome. In female pelvic diseases the radicals long since replaced the conservatives, and are now being themselves, gradually but surely, displaced by the progressive surgeons. Prostatectomy is not yet on a proper footing, and many patients with gallstones are still being treated for dyspepsia. While the cause of cancer is still unknown, we know that the mortality rate, except in a few superficial cases, is 100 per cent., when treated conservatively. We also know that surgery does save a certain percentage with early diagnosis and operation; the cases in which relief is given by the x-ray, radium and caustics

do not justify dependence on these agents in cases of extensive malignancy. In at least 75 percent of the cases of bone and joint tuberculosis the tendency is toward self-limitation of the disease and ultimate recovery and deformity, and here the conservative aids Nature and relieves suffering and prevents deformity by mechanical appliances. Still he often fails to obtain the best results by his conservatism, drags out the treatment for months when a little surgery would overcome the difficulty at once, and frequently allows the patient to go from bad to worse and die of exhaustion, when a timely erasion, excision or amputation would have restored him to health. If the conservative is to be criticised for his sins of omission the radical operator is to be still more condemned. The former is not a surgeon in the common acceptance of the term, while the latter is classed as one because he is always operating. He classes every operation from which the patient recovers as successful, regardless of whether any good has been accomplished, often performs unwarrantable and unnecessary operations or fails to relieve on account of his inability to recognize the existing pathologic conditions. The radical, for want of surgical training and judgment, is often not radical in his methods. He is very apt, for example, to remove stones from the gall bladder and leave those in the common duct, take away the prominent portion of a malignant tumor and leave outlying portions and neighboring lymphatic glands. Moore enumerates other instances of sins against good surgery by too radical operators, such as the discrediting of gastroenterostomy by useless operations and the still too frequent unnecessary gynecologic operations, removals of the appendix, etc. He believes that unless the medical profession is outspoken in denouncing the evils of which he speaks the laity will condemn the whole for the sins of the few and be liable to pass drastic legislation that will overshoot the mark and be a serious handicap to legitimate surgery. We should therefore give the matter serious consideration, and the question is, shall we control the evil by legislation or education? The present tendency is to control everything by legislation, and Moore thinks that laws requiring a definite amount of experience as hospital interne or assistant before license to perform major operations is extended would be helpful and would come better from within than from without the profession. It would be better, though, to secure the desired end by making the necessary training a part of the college course. Every medical college now requires so much laboratory work that it takes half a student's time, leaving him very little more time to study the practice of medicine than he had when the requirement for graduation was but two years. Life is too short to spend much more for theoretical. training than is now required in our high grade institutions, but the student can well afford to take the time for practical experience, and it should be made obligatory. In conclusion, he mentions the education of the medical student in ethics, and says that our medical organization should be so perfected as to exclude commercialism from the profession, so that anyone who makes merchandise of his patrons can no longer be recognized as respectable. We should teach our students practical ethics, following the golden rule, which always has been and always will be practical.

THE TREATMENT OF FRACTURES.

J. P. Warbasse, Brooklyn, N. Y. (*Journal A. M. A.*, March 13), says that the old and simple methods of diagnosis in fractures are of the greatest value and, if as some appear to be doing, to trust entirely to the *x*-ray results is blunting one's diagnostic sensibilities and placing one at a disadvantage when the facilities for the use of the *x*-ray are not at hand. The *x*-ray is most valuable for corroborating the diagnosis, clearing up difficulties and bringing out details but should not be depended on altogether. The subject of fractures, though one of the oldest in surgery and dealing with one of the commonest of surgical lesions, has not yet reached the same degree of perfection as some of the other branches of modern surgery. There is much misconception on several points. One of these is non-union and students are taught much about constitutional weakness, old age, and lack of earthy salts in the blood. These, Warbasse thinks, are insignificant. The vast majority of cases of non-union are due to the interposition between the ends of the fractured bone, of fascia, muscle, or other non-bony tissue. Let broken bone surfaces be held in close opposition, they will grow together. But let soft tissues be interposed and the chances are for non-union. Swelling is another important matter and we may put it down as a pretty general rule that it is in direct proportion to the amount of mobility. The bone exudate amounts to but little. It is the damaged blood channels of the neighboring soft tissues that cause the swelling. Hence the advantage of early immobilization. There is a common notion of waiting until the "traumatic reaction has subsided." But there is a traumatic reaction going on so long as the bones are out of place or are movable, and if we can effect immobilization soon enough the swelling will not occur. For many years Warbasse has been in the habit, in practice, with the leg seen two to twelve hours after the accident, of drawing a long white cotton stocking over the leg and applying a thin plaster cast directly over this. If properly and smoothly applied, with the bones in good apposition and with no unusual condition present such as imperfect reduction, rupture of large vessels, or venous obstruction there will be no further swelling. If pain is present the splint should be removed, but this is rarely the case. It would be dangerous teaching, to recommend this treatment invariably in all cases, but he claims that it is the best procedure in experienced and skilled hands. Another practical point mentioned by Warbasse is extension in connection with the thigh and he insists on the importance of applying this extension soon after the accident. The time to put on the maximum extension is at the very first—from 25 to 40 pounds in a man—then in a week, ten days or two weeks, this weight can be reduced, or even sooner if necessary. The *x*-ray has shown that an accurate replacing of the fragment of the long bone is rarely attained, though the belief of the public is unfortunately otherwise. Open operation is the only method by which it can be guaranteed and we should teach that a perfect functional result is sufficiently satisfactory. He desires to emphasize the following points: "(1) The perfect reduction of fractures of long bones is difficult and often impossible without operation. (2) Without the *x*-ray we are always in the dark as to

the actual conditions present. (3) Reduction with mathematical precision is not absolutely essential for a good functional result. (4) If surgeons would display as much zeal in discussing their imperfect results as they do in presenting their triumphs, our literature would be richer, more practical and of vastly more value, and the public would be less prone to expect impossible things in the treatment of fractures."

Role of the Pituitary Membrane in the Pathogeny of Lupus Vulgaris of the Face.—Henri Caboche asserts that there is an important relation between lupus vulgaris of the face and lupus of the pituitary membrane. It is in the immense majority of cases propagated from the mucous membrane by way of the lymphatics. The simple treatment of the nasal mucous membrane in some cases causes retrogression of the face lesions, and inversely, a subsisting nasal lesion is a cause of perpetual reinoculation of the integument.—*La Presse Medicale.*

Treatment of Whooping Cough.—Feer (Deutsche med. Woch.) says that while there is as yet no specific remedy for whooping cough, it is possible by dietetic measures, hydrotherapy and sedatives, to influence the affection favorably. The year's record shows that eight thousand four hundred infants died of whooping cough, under one year. Between the ages of one and four years the deaths numbered 4,200; between four and six, the deaths numbered 730.

Fresh air and freedom from dust are indispensable. Psychic treatment in also useful, especially with older children, who can sometimes suppress a threatened attack of coughing by deep breathing.

Oatmeal in Diabetes Mellitus.—Pari (Gazz. degli Osped.) says that, in spite of its relative richness in hydrocarbons, oatmeal is often not only well borne by diabetics, but exercises a curative effect. V. Noorden first drew attention to this fact in 1902. It is not possible to continue for long on a diet of oatmeal alone, as nausea, diarrhoea, and oedema may occur, so that it is well to alternate with other diabetic diets—for example, one or two days of strict dieting (flesh, ham, greens, butter, cheese), then three or four days of oatmeal, followed by one or two days of greens, and so on in a cycle. At first, after the oatmeal diet, there is a slight increase in the glycosuria, but this soon disappears and comes down to the level, or even below, that obtained by the strictest dieting. Seeing that we know so little about the actual chemical composition of the various starches, the author thinks it is not impossible that the starch of oatmeal may have a specific action on diabetes. The writer mentions a case of diabetes in a young man aged 22, where the oatmeal had a decidedly good effect, and in a very short time (a few days) brought about the disappearance of the sugar, the oxybutyric acid, and very much reduced the acetone, whilst the body weight increased.

Functional Neurotic Disorders.—The various vital functions of the organism are so intimately associated and correlated that it is impossible to definitely attribute any chronic nervous illness to disease or derangement of *but one* of the great bodily systems, *i. e.*, circulatory, respiratory, digestive, lymphatic or nervous. The many neurotic conditions which the physician is so frequently called upon to treat cannot be successfully attacked by confining treatment to the nervous system exclusively, any more than can the cutaneous affections—acne, eczma or urticaria, be permanently relieved by lotions, washes and unguents alone. Neurasthenia, Nervous "Break-down," Nervous Prostration, "Brain-fag" and allied states are usually but neurotic manifestations of some constitutional metabolic fault, which must be sought out and remedied if intelligent therapy is to be applied. Among the various pathologic conditions which oppose the relief of neural disorders, anemia, whether primary or secondary, is always worthy of therapeutic attention. Unless the blood supply is relatively normal in both quantity and integrity, its oxygen-carrying capacity is "below par" and, consequently, metabolic exchange and interchange is embarrassed and the necessary improvement in bodily nutrition is difficult of accomplishment. Pepto-Mangan (Gude) stimulates and encourages oxygenation and nutrition, by furnishing the more or less impoverished blood with an immediately appropriable form of its vital metallic elements, iron and manganese.

The vital stimulus thus imparted is often the one thing needful to initiate the substantial systemic "building up" process which must precede the desired recovery from neurotic disorders.

The Treatment of Intractable Hay Fever and Paroxysmal Coryza by Resection of the Nasal Nerve.—Dr. E. S. Young, of Manchester, England, has performed this operation in a number of cases, and up to the time of the report a cure has been obtained in each instance. The operation consists in bilateral resection of both nasal nerves at the inner canthus of the eye. In cases associated with asthma this symptom has also been relieved. The author says nothing about the subsequent condition of the nasal mucous membrane, except in one case; in this instance only a slight anesthesia was observed. The author desires the report to be regarded merely as a preliminary one.—*The London Medical Lancet.*

A Note on the Internal Treatment for Simple Warts.—Hall (*Brit. Jour. Derm.*) refers to an article by Dr. Chalmers Watson in the *Brit. Jour. Der.,* in which he pointed out that the particular drug, magnesium sulphate, was not essential, but that the free purgation it produced was the factor of importance in treatment. The writer reports a case in a girl, fourteen years of age, who had numerous warts on the dorsa of both wrists, hands, and fingers, and these had been present more or less since childhood. Her hands were literally covered with them. She was given Mist. allba in increasing doses for one month, but with no result, as her bowels were costive. She was then given a pill consisting of aloin, grain 1-2, and nux vomica, grain 1-4, at bed time. Within one week improvement was noticed and a cure was effected in three months, no local application of any kind being used.

Has the Preliminary Vaginal Douche an Influence on the Morbiditory of the Lying-in Period?—Ahlfeld (*Ztschr, f. Geburtsh. u. Gynak.*) found that for a period in 1891-92 the douche being considered unnecessary was dispensed with, with the result that there was an increase in the morbidity rate. A temperature of 38 deg. (100 deg. F.), or over, was arbitrarily held the lower limit of morbidity. He gives the following figures: In 7000 puerperal women, 662 in each thousand were fever free, i. e., under 38 per cent. In the first 5000 cases, 646 patients per thousand were fever free. In the last 2000, 698 per thousand were fever free. During the period when the douche was dispensed with, there were 700 cases, with 527 patients per thousand fever free, an increase of 15 per cent. over the average of the remaining 6300 cases. With the reintroduction of the douche during or before labor the results improved.

He noted a lowered rate of morbidity among the operative cases, due, he thinks, to the fact that an additional douche was given at the time of operation. Further, he found that in cases of streptococcic infection of the vagina, the colonies were greatly reduced in number a couple of hours after the vaginal douche. He therefore believes that the douche should be employed as a routine practice.

Causes of Mortality from Heart Disease in the United States.—By Dr. Thomas Darlington (*Monthly Cycloped. and Med. Bull.,* Dec. 1908).

Darlington shows by tables and statistics, gathered from various parts of the country, that the mortality rate due to heart disease is steadily increasing in the United States, being apparently unaffected by climatic conditions locally or by density of population. Chronic Bright's disease shows a corresponding increase in mortality. The *general* death rate is steadily decreasing, and no other disease shows a general relative increase in its death rate. According to the author, the commonly accepted causes of cardiac affections cannot be held responsible for the increased death rate without further study of their etiology.

The effect produced by high-strung nervous tension, induced by modern methods of social and business competition, must be regarded as a causative factor in the production of functional and ultimately of organic cardiac disease. There is a direct causal relation between mental and physical strain and kidney and cardiac disease. He thinks the medical profession has an opportunity of great vital moment in teaching the doctrine of equanimity and advocating a surer and more wholesome attitude toward life.—*Post Graduate.*

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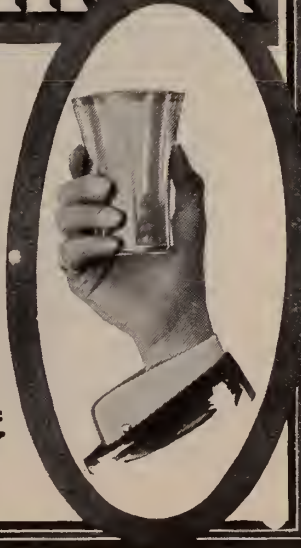
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THERAPEUTIC NOTES.

The Action of Medicine.—By William Waugh, M. D.—How medicines act is one of the mysteries which possibly may be elucidated when we resume the study of medicines as we should. After all, what is there in the indirect, uncertain, venturesome, and tremendously expensive action of the various agents comprised in the so-called 'physiologic medication', that can compare in interest to the changes wrought in the direction of health restoration, by a minute quantity of a drug introduced into the system? Very often it is like the lubricating effect of a drop of oil in creaking machinery.

How do medicines act? Some of them may directly combat invading microorgauisms, although our success in this line has not been very marked as yet. Many medicines act by removing from the circulation and from the tissues, toxic material, which is incumbering them and exerting an evil influence on some elemeuts of our ecouomy.

Most drugs act by elevating or depressing one or other of the vital functions of the body. The four leading principles in this department are vasodilation, vasoconstruction, nerve stimulation and nerve sedation. There is comparatively little of certainty beyond these. But truly we have scarcely entered on the A B C of drug therapeusis as yet. We have wasted much valuable time in studying everything else, in running off over every new tangent that opens before us, and neglecting our principal, our most important duty.

Let us start with the two primary elements of the practice of medicine: A patient, and what to do with him. This patient presents to our skilled diagnostic acumen certain departures from the standard of bodily health. When the cause of the departure is evideut and removable, we detect and remove it. The disease does not necessarily cease with the removal of the cause. Taking a dagger from a wound does not heal the wound. The cause may not be removable; at least, the 'removal of the cause' in certain forms of vomiting would briug the practician in conflict with the law.

Whether the indication be causal or not, what we try to do is to restore physiologic equilibrium, that is, the healthy, normal exercise of the disturbed functions. Hence we must know the action of remedies, so as to be able to select that one which will raise to normal the depressed function, or moderate to normal the hyperexalted one.

It is such a simple matter after all. But we must have this one firm ground from which to start, the absolute sameness of the remedy we use. No matter how accurately we have diagnosed the departure from health, it will be of little avail if we use a remedy of whose exact effect we are uncertain; one of which one specimen may do one thing and the next sample precisely the contrary; the real effect to be obtained from any specimen of the drug we secure being somewhere between these two extremes.

One of the most significant phenomena presented in active principle therapeutics is the unanimity with which those who adopt this method testify to the remarkable increase in the interest they take in their work, and the charm which lies in the practice of medicine with such therapeutic certainties.

Every player of billiards knows the satisfaction of being able to 'call his shot.' We 'call our shot', every time.

Chronic Cystitis.—Cystogen-lithia has been found to be of great value in chronic cystitis and in all affections of the genito-urinary tract accompanied by pus, fermeutation or specific infection.

The Nervous Patient.—The nervous patient always suffers from a multiplicity of ailments, which are usually of a functional character and a fairly reliable index of the degree of actual enervation.

The stomach aud intestines are almost invariably involved, the derangement adding to the nervous condition and thereby creating a sort of "vicious circle." In this class of patients, no remedy manifests its beneficial influence so rapidly and pronouncedly as Gray's Glycerine Tonic Comp. It is a particularly gratifying result of the treatment that as the general nutrition is improved, the nervous symptoms disappear of themselves. While every function is augmented, the nervous system not infrequently shows the restorative action more than any other part of the economy. In neurasthenia, therefore, Gray's Glycerine Tonic Comp. has one of its principal and most rational indications.

Utero-Vaginal Catarrh, by Louis P. Heimann, M. D., Phila., Pa.—During the past two years I have experimented with Glyco-Thymoline in the treatment of some of the catarrhal conditions which affect the female genitalia. The splendid results which I obtaiued on the naso-pharyngeal mucous surfaces led me to try it on other mucous surfaces where the conditicns were substantially the same. Actual clinical experience has proven to my satisfaction that in Glyco-Thymoline the practitioner has at his disposal a remedial agent which in my opinion is unquestionably superior to the topical applications which I formerly employed. Without fear of contradiction I can say it is by far the best deodorant ever put in a purulent vagina. Under its influence the character of the discharge is rapidly altered and that comfort, relief and freedom from malodor which is of so much importance to the female patient, is secured. Glyco-Thymoline, by reason of its peculiar composition, produces the rapid depletion so desirable, cleanses the surfaces and maintains an aseptic condition of the parts. As an irrigation for the uterus and vagina, solutions of 10% to 25% are most desirable. When the uterus is highly congested au intrauterine irrigation of pure Glyco-Thymoline will produce wonderfully good results. When I use tampons pure Glyco-Thymoline produces the best results.

Case I.—Miss R., profuse leucorrhea (idiopathic). She was very miserable and "run down," very nervous, severe pain in back; cervix congested; discharge was acrid and excoriating. Treatment:—Ordered hot douches (110°) twice daily medicated with Glyco-Thymoline two ounces to quart and put the patient on constitutional remedies. This treatment was persisted in for two months when she was discharged cured.

Case II.—Ulceration of Cervix. This patient had been treated with Boro-Glyceride, Iodine, Ichthyol, etc., but without much benefit. Resolved to try Glyco-Thymoline which I accordingly did. Tamponed with lamb's wool saturated with pure Glyco-Thymoline which was allowed to remain for twenty-four hours. On removal a hot douche of 10% solution of Glyco-Thymoline was given and tampon again introduced. This treatment was given for three weeks when the patient was discharged cured.

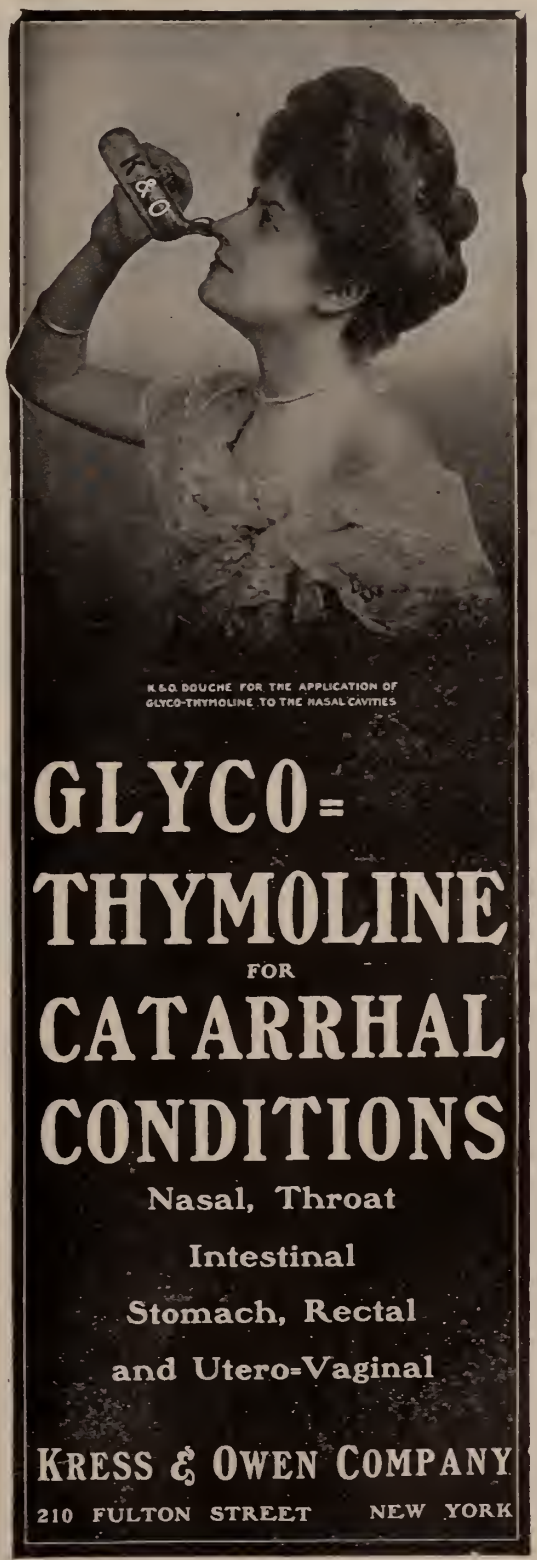
"Gluten" Bread and Cracker Frauds.—By Charles Christadoro. When starch must be eliminated from a sick man's diet, white bread is the first thing tabooed, and then follow potatoes and other overcharged starchy cereals. It is a serious matter for the patient to be denied bread, and so the pathway is smoothed out and the doctor prescribes "gluten" bread, because gluten is not a carbohydrate, and "gluten" bread is supposed to be free from starch.

What is gluten? Well, spend ten minutes and find out—not all about it, but something about it. Obtain a heaping tablespoonful of white flour. Add a little water to it, in a saucer, and dough it into a compact ball. Turn on the tap in the sink, and let the water drip upon your hands as you roll the ball between your palms. The ball will grow less and less, and the water will be white with starch cells held in suspension. In ten minutes, more or less, the water will run clean and clear, and you appear to have a nodule of yellow, firm, vegetable gum, which you are tempted to call "pure" gluten. Become a gum chewer for once, and keep a-chewing for a couple of hours. At the end of this time the quantity of gluten is less than when you took it from the hydrant. What has happened? You have simply mechanically crushed and broken the gummy mass, exposing the infinitesimally fine starch cells to the moisture of the mouth, and the washing out of the raw insoluble starch has continued, just an extension of the sink-washing process, with greater mechanical elaboration to expose the entangled starch cell. Now take the piece of gluten to an analytic chemist. When his report comes in, you read starch 15, or 28, or maybe 20 per cent., gluten 85, 82 or 80 per cent., and begin to appreciate for the first time what real gluten is.

Where a case is a desperate one, and starch or no starch will turn the balance of life, it is very easy to procure and analyze a sample of the flour or cracker of "gluten" the patient is to use. Such a course would save a physician many a perplexing hour, and maybe an esteemed patient now and then.

Gluten is a word to conjure with. There is for sale in London and Paris a gluten bread that is much like baked horn or glue, but it is a step toward gluten, although it may contain 20 to 25 per cent. of starch.

This fact, nothing short of an intricate installation will produce pure gluten, and that at a price



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which is quite prohibitive. Some of the gluten breads on the market may have a portion of their starch eliminated, while others have little claim to any use of the name.—*Scientific American.*

Alas! the gratitude of man hath often left me mourning.—Wordsworth.

Has it ever occurred to you that the words "Guaranteed" or "Guarantied" found on all kinds of articles we purchase means just about as much as when the disputatious boy says, "I bet you!" "I bet you my life!" A plain assertion with nothing behind it. A good thing for doctors to remember.—*Western Med. Review.*

This is an old tale, but its very antiquity will justify its repetition here. During the early prohibition legislation in Iowa an enterprising manufacturer put out a "tonic for coughs and colds," containing a goodly portion of distilled extract of rye, and the directions follow: "A wineglassful two or three times a day, or as often as needed for the purpose for which it is intended." You paid your money and took your choice.—*Western Med. Review.*

The story that an unsophisticated patient who was to take quinine in capsules, and not knowing what the little containers, the capsules, were intended for, removed the capsules and swallowed the bitter drug, has happened more than once in the history of the world. The writer knows of several instances in his own practice.—*Western Med. Review.*

Prevention of Hemorrhage from Umbilical Cord.—This seems the simplest of matters, yet a number of deaths each year are caused by umbilical hemorrhage. The following points have been proven to be of practical value, either from personal experience or observation.

1. It is of the greatest importance to gently strip the cord from the umbilicus outward. In this way the cord can be reduced to the size of a thin piece of tape. Tying a large knuckle of blood in the cord predisposes to hemorrhage, sepsis and increased length of separation.

2. The ligation must be of just the right size. If too small, it will cut through the delicate structure of the cord and cause hemorrhage; if too large, the cord will not knot properly, and by surrounding the cord too loosely cause hemorrhage.

3. The least possible handling of the cord insures safety. The end of the cord should be wrapped in a tiny wisp of cord, which should be left undisturbed to come off with the cord. Dr. J. L. Andrews in *Memphis Med. Monthly.*

Ulcer.—The differentiation between a specific and tuberculous ulcer of the fauces is sometimes very difficult. As a rule the specific ulcer is shallow, grayish, with a regular margin, not very tender and does not cause dysphagia; on the other hand, a tuberculous ulcer is deeper, more sloughy, irregular in outline, has an outer inflammatory zone, is exquisitively tender and causes great pain on swallowing, laryngeal examination may reveal a tuberculous condition of the cords.—*American Jour. of Surgery.*

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URINARY INCONTINENCE IN CHILDREN.—Deschamps (*Revue d'Hygiene et de Médicine Infantiles*, Tome vii, 1908). Enuresis is essentially a disease of childhood. It is very rare in adults and is said never to occur after the age of 30. The period of puberty leads to recovery in the majority of the cases, and this is more apt to occur in girls than in boys. The principal cause of enuresis, according to the author, is anæsthesia of the urethral mucosa. In the second place, a part is played by hyperirritability of the bladder. The third, and very important, factor is the general condition of the patient. These children have, as a rule, a neuropathic heredity, or they may present distinct neuropathic symptoms. Suitable treatment of the underlying neuropathy usually leads at the same time to an improvement of the enuresis, and the prognosis is, therefore, not altogether unfavorable.

In the differential diagnosis a number of other affections must be kept in mind, all of which may lead to urinary incontinence. These are in the first place organic diseases of the nervous system, also affections of the urogenital apparatus (malformations, inflammatory changes,

modifications in the chemical composition of the urine, such as lithiasis or hyperacidity); finally, inflammatory processes in the surroundings of the urinary passages (vulvitis, balanitis). There is a doubtful form of enuresis, which is claimed to originate reflexly, by way of adenoid vegetations, for instance.

Concerning the treatment of enuresis, the methods which have been recommended are practically innumerable. The author arrives at the conclusion that the best treatment probably consists in simple suggestion. R. F.—*Med. Review of Reviews.*

Surgical Hints.—A distended bladder may be mistaken for an ovarian tumor. Catheterization will promptly establish the differential diagnosis.

It should never be forgotten that a pregnant uterus is the most frequent of all abdominal tumors, and it should always be eliminated in making a differential diagnosis.

Never forget that an unconscious or semi-comatose patient will be burned severely by hot water-bags or bottles at a temperature that would have no effect on a wide-awake or even normally sleeping person.—*International Jour. of Surgery.*

Capillary Bronchitis.—For the relief of capillary bronchitis, with spasms caused by cold and exhaustion, take the following medicines:

℞ Spirit. etheris comp. .....℥ij.
Tinct. card. comp.....℥ij.

M. Sig.—Teaspoonful in cool water every half hour until six doses are taken; take during an attack.

℞ Ammon. iodidi .....℈j.
Ammon. carb. .....℈ij.
Syr. glycerini .....℥ij.
Syr. tolutani .....℥ij.

M. Sig.—A teaspoonful every two or three hours.—*Medical Summary.*

Pruritus Ani.—The bowels should be kept soluble by means of gentle salines, or warm enemata. The diet should be plain and non-stimulating. Rich foods, stimulants, and condiments should be avoided.

The following formulæ will be found useful:

℞ Calomel .....gr. xxxv.
Ung. picis .....℥ij.
Ung. stramonii .....℥ij.

M. Sig.—Insert with ointment injector, or on finger, night and morning.

℞ Argenti nitrate .....gr. xx.
Aquæ .....℥j.

M. Sig.—Apply through speculum, and also on skin surrounding anus, every two or three days.

℞ Antipyrin .....℥ss.
Ung. picis .....℥ss.
Ung. aq. rosæ.....℥ss.

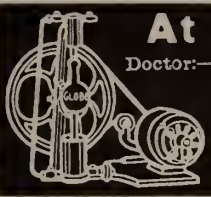
M. et. Sig.—Apply internally and externally night and morning. The above will be found exceedingly efficacious, and will often give relief when everything else fails.

The following is also a good one in some cases where the itching depends on ulceration of the bowel, with acid secretions:

℞ Cocaine mur .....gr. iij.
Sodii biborate .....℥iij.
Aquæ menth. pip. .....℥ij.

M. Sig.—Inject two tablespoonfuls into the rectum once or twice a day. Dr. Yount. *Medical Summary.*

Milk and Disease.—The *Medical Times* of London has this recent editorial: Milk is rightly recognized as a perfect form of food. It may, however, prove to be the cause of much disease. Epidemics of scarlet fever have time and again been traced to milk, and the well-known Hendon outbreak, which was investigated a few years ago, showed a definite connection between cattle disease and the spread of scarlet fever in Marylebone and other districts of London. Then, again, milk is quite probably the cause of abdominal tuberculosis in children. This is the view held by many observers, and we ourselves are inclined to believe in it from our own personal investigations of the subject. In the recently issued annual report of the Henry Phipps Institute for the Study of Tuberculosis it is stated that out of a record of 675 cases, 90.97 per cent. of the patients had been breast-fed in infancy, and only 9.03 per cent. were bottle-fed. Out of 686 cases of which a record was made as to the condition of health during the first five years of life, 85.86 per cent. were recorded as having had good health and 14.13 per cent. as having had bad health. For two years, out of 1,206 cases of which a record was made as to the mode of feeding in infancy, 91.45 per cent. were breast-fed and 8.54 per cent. were bottle-fed. Out of



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1,229 cases of which a record was made as to the condition of health during the first five years of life, 84.82 per cent. were recorded as having had good health and 15.37 per cent. as having had bad health.

According to these statistics, cow's milk has, apparently, little or nothing to do with the implantation of human tuberculosis. As a matter of fact, however, these figures are no true argument against one's own personal experience that most cases of abdominal tuberculosis in children are due to the ingestion of tuberculous milk. But not only may infected cow's milk cause abdominal tuberculosis, but it may also give rise to other conditions, such as gastroenteritis and so on, which are undoubtedly due to infection, in all probability, from a bad milk supply.—*Medical Review of Reviews.*

Zinci Sulphas and Alumen in Pruritus Ani.—The following has been recommended as almost a specific in case of pruritus ani: Take of sulphate of zinc and alum equal parts; heat the two until all the water of crystallization has been driven off, and dissolve the residue in water, 430 (℥j to ℥j). The solution must be applied freely to the site of irritation.—*The Hospital.*

To Enlarge the State Hospital for Tuberculosis at Raybrook, N. Y.—A bill has been introduced into the New York Legislature providing for an appropriation of $175,000 for improvements at the State Hospital for the Treatment of Incipient Pulmonary Tuberculosis at Raybrook, N. Y. The bill proposes to increase the accommodations and equipment of the hospital, making the minimum capacity about 300 patients.

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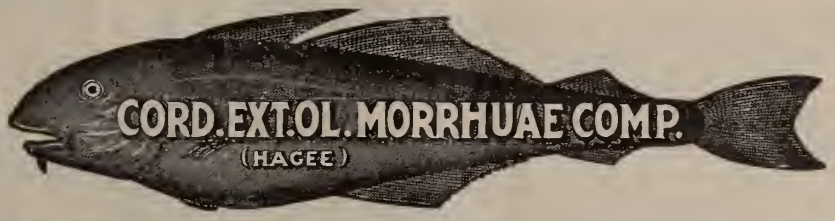
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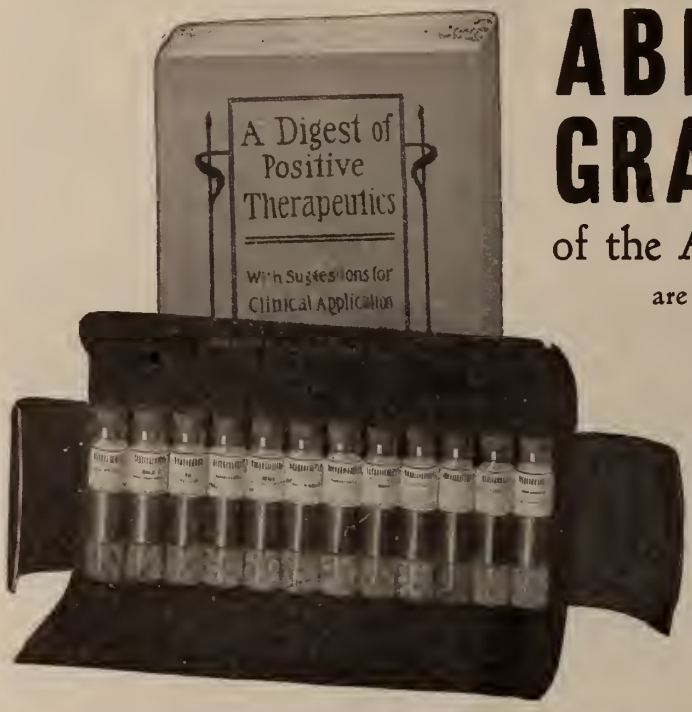


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Vermont Medical Monthly.

VOL. XV. JUNE 15, 1909. NUMBER 6.

ORIGINAL ARTICLES.

THE DIAGNOSIS AND TREATMENT OF INITIAL (SPECIFIC) LESIONS.*

By

W. S. REYNOLDS, M. D.,

New York

Prof. Venereal Diseases, College of Medicine, University of Vermont

The diagnosis and treatment of initial (syphilitic) lesions should have some points of interest for all physicians. For the specialist, in whatever line of work he may be doing, he may at any time have presented to him lesions which require him to differentiate these lesions from others closely resembling them. For the general practitioner, who sees and treats diseases of all descriptions, a thorough knowledge is essential.

Moreover a correct diagnosis in the early stages of the disease is of the greatest importance, not only to the individual himself, but to the community at large also, for a mistake or carelessness in diagnosis may, on the one hand, give rise to much subsequent confusion, causing the patient to go through life bearing the stigmata of syphilis, and having every subsequent indefinite illness in some way related to it simply because the physician has been lax in making it perfectly plain as to the nature of the condition; on the other hand, a lesion which has not been correctly diagnosed may lead to serious consequences to others before the mistake has been recognized.

The manner in which a good many doctors are in the habit of calling every lesion, especially when situated on the genitals, a chancre, without making it perfectly clear to the patient exactly what they mean by that term cannot be too strongly condemned. I have occasion to see this so frequently repeated in the course of every day practice, both in private and dispensary work, that I wish to emphasize here the importance of making it clear to the patient that the lesion is or is not syphilitic. The term "chancre," it ought not to be necessary to say, should only be applied to the initial lesion of syphilis, while chancroid, which is a much better term than soft chancre, be used to designate the non-infectious ulcer. Soft chancre is to my mind, a bad term to use, as patients are very likely to forget the qualifying "soft" in the course of time, with resulting confusion. If no diagnosis can be made the patient should frankly be told so and the importance of waiting for developments explained to him.

Cases are constantly being seen where the patient has had at some time a lesion which was diagnosed as a "chancre" nothing having been said as to its syphilitic nature. In some cases they may have undergone several months of treatment of some form or another, perhaps beginning as soon as the lesion was manifest, thus adding to the confusion. Now imagine the position of the man or woman should they develop some obscure condition; the question as to the syphilitic nature of the disease is sure to arise and much unnecessary confusion result. If the Wasserman reaction proves what we hope it will, a method of differential diagnosis in just such cases will be afforded us.

I am also impressed with the fact that many physicians do not go carefully enough into the history of these patients before coming to a conclusion, merely accepting the patient's statement of a "chancre" and on that statement ordering mercury and iodides.

This was especially impressed upon me by a case of a patient whom I had treated for cystitis and who developed, some time later, a condition which I considered locomotor ataxia. I took him to a very competent neurologist, who, after an examination confirmed the diagnosis. He asked the man if he had not had a sore on the penis and the patient confessed that he had, whereupon without further questioning he was ordered iodides and mercurials. Now what were the facts? Some 12 years before he had had an ulcer on the penis. The period of incubation was positively fixed at a few days. The ulcer had given rise to a suppurative adenitis and fortunately he had gone to a physician who had simply used local treatment and

*Read before Burlington and Chittenden County Clinical Society.

had watched and waited for the secondary developments. There were none, and during the 10 years I had known him intimately he had had no manifestations of syphilis whatsoever. That case made me somewhat skeptical in regard to some of the statistics of locomotor ataxia, and when I recently had the good fortune to see quite a number of locomotor ataxia cases which had been referred from the Nervous Department at the Vanderbilt Clinic to our Genito-Urinary service I determined to satisfy myself on this point. After going very carefully into the history of these men I could find only a very small proportion who gave a distinct syphilitic history. Quite a number had never had any manifestation whatsoever of syphilis, and while the majority had had a lesion of some sort, the diagnosis was questionable.

The diagnosis of a fully developed typical chancre is not difficult. The points which we are to bear in mind in such a diagnosis are as follows:

I Period of incubation—3 to 4 weeks.

II Appearance of the lesion—Beginning as a reddish papule increasing in size; with little or no destruction of tissue.

III Characteristic induration.

IV Accompanying glandular enlargement.

These characteristics may be so altered or changed from various circumstances that too much stress must not be laid upon the absence or alteration of any particular feature of the lesion in making a diagnosis. We must therefore consider a little more fully the different features of the lesion and the manner in which they may be altered.

While the period of incubation is often of great assistance where we can fix with absolute certainty the time between when infection took place and the appearance of the lesion, still this period is subject to considerable normal variation. Fournier says the minimum period is 15 days and the maximum about 40 days. The experimental inoculation of monkeys by Metchnikoff and others showed it to be about 25 days.

The majority of our dispensary patients are having promiscuous sexual intercourse whenever opportunity offers so that it is seldom that we can say in such patients when infection took place, and therefore in such cases the period of incubation is of little assistance. In extragenital lesions it is seldom possible to determine the exact source of infection and consequently the time when it occurred. It must not be forgotten that syphilis in a fairly large proportion of cases is acquired in such a way and that initial lesions are found elsewhere than on the genitals.

The appearance of the lesion is the principal thing on which we must rely for a diagnosis. As the syphilitic process in all its stages is the same i. e., an infiltration of round cells and changes in the surrounding blood vessels and lymphatics and is a productive and not a destructive process we should have a mass of new formed tissue which would be larger or smaller depending on the severity of the process. Clinically we seldom see a lesion in which there is not more or less accompanying ulceration. In such cases the mass will have a very slightly crater-like appearance, with a bright reddish surface, glistening in appearance, and covered with a serous or slightly bloody exudate, which can be seen to exude from the surface after it has been dried. The area surrounding the lesion is of a purplish color quite typical in appearance. If there is considerable ulceration it is due to secondary infection. Seen early in its evolution the lesion is insignificant and is sometimes dismissed as of no consequence.

As the lesion disappears it leaves a brownish violet colored area which remains visible for some time.

Induration when present is quite characteristic. When the lesion is situated in certain parts, as about the coronal sulcus, it is usually marked, while in lesions on the sheath of the penis there is generally only very slight thickening of the tissues. The induration is different from the inflammatory infiltration sometimes seen in chronic chancroids, where the thickening of the tissues extends out into the surrounding parts, gradually fading into the normal tissues. The induration of the chancre is cartilaginous in feel, sharply defined, and can be grasped between the fingers, feeling as though a button or similar substance was inserted under the skin. The induration does not make its appearance before the 10th or 12th day, so that lesions seen early will not be accompanied by induration. As the induration may remain for some considerable time after the other signs of the chancre have disappeared

it should always be sought for when the patient presents himself in the later stages of the disease.

A rather interesting case came under my observation some time ago, where a young man presented himself complaining of difficulty in urinating, which had begun a short time previously and had been constantly increasing, until at the time of his appearance it was with a great deal of difficulty that urine was voided at all. There was pain over the pubes. Urination was frequent and only with the greatest difficulty and after long effort was it expelled. At each urination the foreskin would balloon out to considerable size. An examination showed a condition of phimosis, with a preputial opening so small that a probe could not be passed through it. There was some thickening but no marked induration, and glandular enlargement was not marked. Circumcision was advised and performed at once under cocaine anaesthesia. As soon as the man got off the table there was an involuntary gush of urine which he was unable to control and for a few days afterwards there was some little difficulty in controlling urination. This gradually subsided until urination was again perfectly normal.

An examination of the specimen at the time did not excite any suspicion as to its true nature, but about a week later he developed a typical roseola, showing that the man had had a chancre at the preputial orifice of a phimotic prepuce. My friend, Dr. John van der Poel told me of a similar case where extravasation of urine into the penile sheath had occurred as a result of the stenosis.

The accompanying adenopathy makes its appearance about a week or ten days after the lesion is manifest. Where there are no complications the enlarged glands are separate and distinct from each other; hard and non-painful. If secondary infection has taken place the glands may become matted together, and as in chancroidal adenitis break down with the formation of pus.

While I believe that we ought to rely as much as possible on the clinical picture in making our diagnosis and not ask the pathologist to make it for us I have lately become impressed with the importance of having a microscopical examination of each case because of the mooted question as to whether syphilis may abort in the primary stage, and also as corroboration of the diagnosis.

The evidence, of course, that the spirochaeta pallida is the infectious organism is still lacking in some respects as no one has been able to cultivate it and thus establish a complete chain of evidence, but we do know that it is a constant accompaniment, not only in the primary and secondary, but also in the tertiary stages. In making these examinations it must be remembered that it is necessary to make a number of slides, as it may be impossible to find the organism in some cases, in one slide, while in another it may be found swarming with them. The method of making the smear is important also. The area just at the edge of the lesion should be very gently curetted until serum appears and then the slides should be drawn quickly over the spot and allowed to dry, when they can be stained and examined. Attachments are now being made for the microscope by means of which a drop of serum can be examined and the moving organisms be seen.

A chancre may of course develop at any point where infection gains entrance into the tissues. While we generally find these lesions developing about the genitals we must not forget the fact that the lesions are not infrequently extragenital in origin and that while syphilis is classed as one of the venereal diseases it is quite commonly non-venereal in origin. It has often been a matter of wonder to me that we do not see, more often than we do, syphilis contracted from the many possible sources of infection.

Some of the ways in which infection was acquired that have come to my notice are: by means of razor cuts; from sticking plaster moistened by a syphilitic and applied to a cut on another individual; from a cut with a glass from which a spyhilitic had drunk; there have also been reported many interesting cases of mediate infection. Dr. A. H. Newman recently gave me the details of an interesting case. A woman 5 or 6 months pregnant who was in the habit of going about her rooms in her bare feet ran a needle in the sole of her foot to which little attention was paid after the needle was removed. Later there developed at the same spot a chancre, followed by secondary manifestations. Upon investigation it was found that a friend of the husband, who was a syphilitic, was in the

habit of visiting their apartment and sometimes, when intoxicated, would spit on the floor. The woman was delivered of a child who had a well marked dactylitis.

Infection of babies from wet nurses has been not infrequent. The kiss of a syphilitic individual is also liable to carry infection. A case of chancre of the tonsil was recently seen which had been treated as diphtheria.

While chancres are usually single lesions we not infrequently see them develop in two or more places, so that we cannot rely on this point in a differential diagnosis.

The most frequent diseases which we are called upon to differentiate from chancre are chancroid, herpes, scabies and sometimes, a simple balanitis or balano-posthitis, and rarely epithelioma.

The chancroidal ulcer generally causes considerable destruction of tissue. The edges of the ulcer are irregular in outline, undermined and surrounded by an inflammatory area altogether distinct from the purplish color of the syphilitic lesion. It is usually accompanied by a suppurative adenitis.

In scabies the lesions between the fingers and on other parts or the body, showing scratch marks are usually sufficient for a diagnosis.

Herpes, where the typical vesicular lesions and the burning, smarting sensation which usually accompany their appearance are present, can be easily diagnosed.

Simple balanitis or balano-posthitis sometimes offers considerable difficulty in determining the exact nature of the condition, especially as we have a form of so-called chancrous erosion, which may resemble very closely a simple balanitis. Sometimes, where the inflammation has lasted for a considerable time there may be quite a little inflammatory thickening in the region of the coronal sulcus so that when the prepuce is retracted it looks very like a chancre situated in this region.

Chancres have been mistaken for epithelioma and removed. This is, of course more likely to occur where the lesion is extra-genital. A case which I saw a few years ago in the service of Dr. John van der Poel is interesting more particularly on account of the man's after history. He came to the clinic complaining of irritation about the prepuce and an examination showed a condition of phimosis for which he was circumcised. He was then found to have a nodule at the frenum which resembled a chancre somewhat, but which, after watching for a time, gave distinct evidence of maligancy. He was transferred to Bellevue Hospital where Dr. F. Tilden Brown removed the entire penile structures except the urethra which was implanted in a slit in the scrotum. He made a good recovery and later reported that he was able to have perfectly satisfactory intercourse with his wife.

A microscopical examination will, where a diagnosis cannot be made, show the presence or absence of spirochaetae.

The treatment depends primarily on whether the lesion can be seen and treatment applied directly to the lesion or whether it is concealed, either beneath a phimosis, within the meatus, or elsewhere.

The treatment by excision is of absolutely no use so far as the abortion of the disease is concerned and in the vast majority of cases not to be recommended. Another method of treatment to which I am most emphatically opposed is the cauterization of any lesion. Once in a very great while cauterization may be necessary, but the routine employment is, I am sure, of no benefit, and may cause considerable harm.

In simple uncomplicated cases cleanliness is about all that is necessary. Washing the lesion as often as possible and the application of a wet dressing of bichloride of mercury or black wash serves to answer all purposes.

Where secondary infection has occurred the above measures may also be used in some cases. If the surface of the lesion becomes covered with a foul, necrotic covering or crust, the use of peroxide of hydrogen, after the preliminary washing, is useful. I prefer the use of wet dressings in the majority of cases though sometimes the use of a powder of calomel and bismuth may be preferable.

Where the ulceration is severe or there is a phagadenic or gangrenous-condition present there is nothing in my experience which will take the place of iodoform. The parts should be bathed or irrigated frequently with hot bichloride solution and afterward dusted with iodoform powder and a little iodoform gauze placed over the lesion to absorb the secretion. I have never failed to see lesions promptly improve under this treatment. Of course the objection to iodoform is its odor and the suspicion at once aroused by its use but this can be largely obviated by care in the way in which the pow-

der is used; simply applying a little to the surface of the sore and covering with a large wad of cotton.

Various substitutes for iodoform have been devised but I have not found any which answer the purpose. There have also been numberless expedients employed to disguise the odor but without much success. If care is used not to scatter the iodoform all about the clothing and person, and the powder used as suggested, the odor will be greatly minimized.

For the induration which remains after the lesion has healed a liberal application of 50% mercurial ointment should be employed or if on a part that can be seen, white precipitate ointment can be used, and will quickly cause a return to the normal.

Where the lesion is so situated as to make inspection impossible, as beneath a phimotic foreskin, treatment can only be carried on by means of irrigations and in such cases we are only able to judge by the sense of touch as to the progress which is being made. A very useful solution, especially as there is generally some balanitis, is one containing sulphate of zinc, 1 to 2 grains to the ounce.

Where conditions seem to warrant it a cut must be made and the lesion exposed. Bilateral flaps offer much better exposure of the parts but of course require a plastic circumcision later. Infection of the cut edges must be prevented if possible by a proper dressing.

As a preventive measure against infection calomel oint. 33% has been proven, experimentally, of use. To be successful, however, it must be used within a short time after infection has taken place and be thoroughly rubbed into the spot. This is of considerable importance to the surgeon, but as a measure of general application is of very limited use.

In conclusion I wish to emphasize the very great importance of a correct diagnosis in these cases and of giving the patient distinctly to understand that the disease is syphilitic. If there is a question as to the diagnosis do not call it a chancre but wait for developments before making a diagnosis.

The first class of physicians turned out under the American rule was graduated from the Philippine Medical School, Manila, February 27.

CHRONIC PROSTATITIS.

BY

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Many cases of chronic prostatitis come to my attention, some are sent to me by my colleagues who are familiar with the "referred symptoms" of chronic prostatitis, and others come of their own volition owing to their urinary or sexual symptoms. The classification of the symptoms of chronic prostatitis into sexual, urinary and referred is that used by Young, Geraghty and Stevens in their master work on chronic prostatitis, published in the transactions of the Johns Hopkins Hospital for 1906.

At this point of the discussion I wish to state that if to those of you who are familiar with the literature of chronic prostatitis it would seem as though I were plagarizing, I will plead guilty to extractions and suggestions from that most exhaustive thesis. It would be impossible for one to write or talk on the subject of chronic prostatitis and not hit upon theory or fact already incorporated in their studies. It is with a view of bringing closer to you the results of the exhaustive labors, and a hearty recommendation of the perusal of the writings of these gentlemen, who are strangers to some of you, that I am offering you this subject today.

I think it was Dr. Keyes, Sr., who called the prostate gland the "sexual heart" and so it is, for without it, the elaboration of the active principle of the semen could not be carried on. The prostatic urethra, as we know, contains the verumontanum, the openings of the ejaculatory ducts, and physiologists assure us that the seat of sexual pleasure is located thereabouts. Our clinical observations in pathological conditions of the posterior urethra substantiate this claim. The familiar horse-chestnut simile has been used by generations of anatomists and it cannot be improved upon when describing the shape of the gland. Permit me to ask you to reflect upon the anatomy of the base of the bladder, with its prostate, vesicles, and ampulations of the vas deferens.

As so many physicians with whom I see cases palpate the prostate through the rectum while in the supine decubitus, allow me to suggest the knee, elbow, or the standing bent over posture. They are the positions of election with me, and have the advantage of bringing the parts nearer the pulp of the examining finger. The histologists teach us of an outer fibrous covering which, as we know, is of great importance in the operation of prostatectomy, and of the true covering of the gland which dips down into, and makes compartments, as it were, for the glandular stroma. The ducts of these glands empty into the sinus of the prostatic urethra, alongside of the verumontanum. The location of the opening of these ducts has an important bearing upon the pathology of chronic prostatitis.

We will assume in this paper that all instances of chronic prostatitis are of bacterial origin. And there are several bacterial causes of chronic prostatitis, although undoubtedly the gonococcus is the principal offender. Any factor that offers a local insult to the delicate prostatic urethra, the vascularity of the gland, or of the glandular substance, lowers the normal resistance and courts infection by the gonococcus, streptococcus, staphyloccocus, colon bacillus, etc.

Whether these infective agents are in the circulatory medium, blood or lymph stream, or are directly placed in the prostatic urethra to be later taken into the substance of the gland via the prostatic ducts, or gain entrance by direct contact of tissue, as does the colon bacillus from the rectum, are pathological problems to be worked out in each individual case.

Among the provokers of congestive conditions of the prostate gland interrupted intercourse, as is produced in the habit of withdrawal, or in the ungratified sexual desire of a pure but prolonged courtship; excessive masturbation; abnormal sexual practices, or chemical changes in the urine, are often classed as etiological factors in occasioning chronic prostatitis; trauma as in bicycle riding on an imperfectly fitting saddle indirectly induces chronic prostatitis. I believe that I was the first to report such a case.

I see numerous cases of traumatic prostatitis in railroad men who are subjected to the constant vibration of the cars, also in the "sealers" who are employed in scale works. They sit astride of the brass bar they are graduating and the marking on this bar is done with a sharp chisel-like tool that is struck a short quick blow with a hammer, producing a concussion that is transmitted directly to the perineum.

In working out a diagnosis one must weigh the subjective symptoms, venereal and sexual history, urinary analysis, the "feel" of the prostate by rectum, and make a careful miscroscopic examination of the expressed mixed secretion following prostatic massage.

It is claimed that changes in the prostatic secretion are much more frequent than are the evident changes per rectum. One important finding in pathological prostatic secretion is the presence of leucocytes and a close study of them will reveal a preponderance of mononuclear cells. Spermatozoa in the normal expression by rectal prostatic massage are active and mobile, whereas in chronic prostatitis they are sluggish in motion and many are immobile, thus the relation chronic prostatitis bears to fruitless marriages is important. I was treating a male, referred by Dr. Hammond, for chronic prostatitis. This man was the father of two grown-up children. In getting his sexual history he advised me that for many years his wife had taken no precaution to prevent conception. *I failed to warn him regarding the possibility of the awakening of a dormant function* and much to my surprise he offered as an offset to my bill the argument that his wife became pregnant, and miscarried, and that as he had been put to a great expense for curettage and subsequent treatment, he considered I should make a discount in my bill.

Should you suspect chronic prostatitis and in your expressed fluid fail to find leucocytes, do not think you are wrong in your suspicions until the examination of repeated expressions fail to show their presence, for oftentimes they will not be present until after four or five treatments. Mental reference to the histological structure of the gland will readily suggest to you why this is possible. The amount of pus found bears direct relationship to the degree of involvement of the prostate.

The question of diagnosis in patients coming to you with urinary symptoms as given in the article referred to, namely "frequency of urination, pain at the beginning of urination, pain or burning at the end of urination, slow and difficult urination, dribbling at the end of urination, irritation of the prostate"; or of pa-

tients coming to you with sexual symptoms, as a large number of these cases do, especially in individuals who have not reached the age to be sexually embarassed or bankrupt, the symptoms referred to by these patients are generally those of diminished vigor, imperfect or absent erections, disturbing or painful erections, premature ejaculations, painful ejaculations, sexual hyper-sensitiveness, nocturnal ejaculations and prostatorrhea. It is easy, with these symptoms in mind, and your physical findings, to arrive at a diagnosis of chronic prostatitis.

It is in the cases who have no prominent urinary or sexual symptoms that the presence of chronic prostatitis is overlooked and the symptoms classified by Young as "referred symptoms" are the important ones to appreciate.

The gynecologist justly ascribes the numerous aches and pains of the female to the diseased organs in the pelvis. Apparent simple disturbances of the uterus, tubes and ovaries you have all seen inaugurate a train of reflex nervous symptoms that have been hard to combat. It is so with the prostate; it is to the neurotic male what the uterus and adnexa are to the neurotic female. The neuroses or referred symptoms are due to the association of nerve fibers. There is no definite understanding as to the positiveness of an internal physiological secretion of the prostate gland.

The nerve exhaustion accompanying cases of chronic prostatitis is often severe, for example, as in a case I have had under treatment: a physician who became melancholic and suffered from insomnia and other classical symptoms of a complete nervous break-down, all symptoms of which were relieved by appropriate treatment directed to his prostate. The restoration to nervous balance by bringing the prostate gland back to a condition of normal function, necessarily puts back into the blood stream the lecithin and other organic constituents of the normal prostatic secretion. We know that without treatment to the prostate cases of nervous exhaustion are improved by these physiological products extracted from animals, when they are administered by mouth. Or, hypo-spinal asthenia and cerebral exhaustion, often ascribed to overwork at the office, are more often the result of *overwork of the prostate in early life*. The association of the prostate to the nervous system, especially the central nervous system, was most ably brought to the attention of the profession in an article published by Bohem. He contended that in cases of sexual crime and criminal perversion, an extra pelvic and intra pelvic examination of the genitalia of criminals should be made by an expert urologist as well as by the neurologist. In this connection for the past ten years, and before knowing anything of Bohem's work in this field, I have associated this type of sexual degeneracy to the possibility of diseased genitalia.

In my position at the House of Correction I have had unlimited opportunity to study along this line and hope some day in the near future to get my data together and publish my findings. Recently we have had with us at the House of Correction a man who has been convicted of a most brutal sexual crime. This man I have examined repeatedly and can assure you that he is suffering from a most classical case of chronic prostatitis. In his particular instance the prostatitis is probably due to infection by the colon-bacillus, the gland having lost its resistance to the invasion of the bacillus by excessive masturbation. This man is a convicted murderer so the exertion of any physical or mental energy in his behalf would be love's labor lost.

Before broaching the cause or the citation of any case of referred symptoms in chronic prostatitis, the quotation from Head's work on visceral diseases and the study of it will clear up many cases of pruritus, sciatica, lumbago, etc. Head says in part "A painful stimulus to an internal organ is conducted to that segment of the cord from which its sensory nerves are given off. There it comes into close connection with the fibers for painful sensation from the surface of the body which also arises from the same segment. But the sensory and localized power of the surface of the body is enormously in excess of that of the viscera, and thus by what might be called a psychical error of judgment the diffusion area is accepted by consciousness, and the pain is referred to the surface of the body instead of to the viscera actually affected."

Fibers from the dorsal, lumbar and sacral regions are distributed to the prostate and so it is not strange that symptoms of renal calculus were simulated in a case referred to me by Dr. Heidel of Rutland. A man, woodchopper, thirty-

six years old, had gonorrhea seven years previously and had been suffering from attacks which resembled very closely the symptoms of renal calculus; the pain was located in the small of his back, in the right kidney region and beneath the costal margin. It usually came on while he was at work and was very severe, and on several occasions demanded morphin. The urine contained nothing abnormal except some blood, which was generally noticed at the termination of urination. (Terminal hematuria is an important observation in these cases). The attacks of pain occurred at intervals varying from several days to as many weeks; the prostate was irregular, enlarged and indurated and the prostatic secretion contained many pus cells. The vesicle on the right side was buried in adhesions. Cystoscopic examination showed definite evidence of inflammatory change around the prostatic orifice. The orifice was hyperemic and the blood vessels were highly injected and thus showed the source of the terminal hematuria.

The medium portion was thickened and the distinct obstruction was to be seen damming back the amount of residual urine that was present. Catheterization of the ureters showed normal urine to be coming from both kidneys; X-ray examination was negative. I diagnosed the condition as being one of chronic prostatitis and instituted treatment accordingly, since which time there has never been another attack of the colic-like pain and the patient has made a complete recovery, and gained thirty-five pounds in flesh since when first seen by me.

Another case, referred by Dr. Dalrymple, showed a marked sensitive area between the eleventh and twelfth ribs on the left side over the transverse process of the vertebrae. Ilio-hypo gastric neuralgia was diagnosed. The prostate showed evidence of interstitial change so it was thought to be the causative factor. He was treated and never had a recurrence of his pain after the third treatment.

Pruritus ani has been a referred symptom which has been a common one with me, whereas in three hundred and fifty-eight cases reported by Young, only one instance of puritus ani is chronicled.

I have had several patients referred to me who were under the impression that their hemorrhoids per se were keeping them in misery. These cases when examined for hemorrhoids showed their presence, but diseased prostates as well which were the cause of the hemorrhoids. The pruritus cleared up after the prostates were treated. Several years ago I published an article upon acute prostatitis following the injection treatment of hemorrhoids. My subsequent study on the subject has convinced me that the patients so operated upon were suffering from chronic prostatitis at the time the injections were made, and that the acute prostatitis was an aggravation of their chronic condition, induced by disturbing the prostatic venus circulation.

I am now seeing regularly, in consultation with Dr. Caverly, a patient who at the time he consulted the doctor did so for an obstructed urinary condition, dysuria, terminal hematuria, etc. However, prior to the advent of urinary symptoms he had been neurotic and some few years ago showed a large percentage of albumen in his urine, but no morphological renal elements. I believe that at that time the patient was suffering with a pathological prostate and the albumen was due to an escaping hypersecretion from the prostate.

Insurance companies now recognize the condition of prostatorrhea and men are accepted who were formerly rejected for "albumen in their urine," (I, of course, mean after the prostatitis has been cured.) I have just discharged a patient, referred to me by Dr. Ball, from treatment who, owing to his chronic prostatitis, had been rejected by three insurance companies. At my suggestion he submitted to one of the companies, who had rejected him a year ago, a specimen of his urine. It was examined at the home office and the company has since issued him a policy. This after a year's active treatment.

Abnormal sensations in the rectum, perineum, penis, urethra, scrotum, testicles and anus are common. I have now under treatment a case, referred by Dr. Sabin, who is nervously unbalanced on account of a sensation he likens to a worm crawling down his urethra. It is a hard symptom to combat and is really a prostatic neurosis, as are the other referred symptoms alluded to.

I could go on and recite numerous case histories to you, but the cases whose symptoms I have outlined will afford you an idea of the importance of the generally misinterpreted referred symptoms.

SOME OF THE LESSER KNOWN PROPERTIES OF THE BLOOD.*

BY

B. H. STONE, M. D.

No tissue in the body has been the subject of so much study in later years as the blood and in no other instance has study been rewarded by such important development. A short time ago we were taught only that the blood is a tissue like other tissues, consisting of cells and intercellular substance: the cellular elements in this case being of two kinds, leucocytes and erythrocytes: and the intercellular substance differing from that of other tissues in the fact that it is a fluid, thus being adapted to its peculiar function of carrying nutrition to all the other cells of the body. The red cells are formed during life in the red-bone marrow of the long bones and are composed of a stroma containing a peculiar iron-bearing albumen called haemoglobin. This haemoglobin has a great affinity for oxygen which it holds in loose chemical combination, readily yielding it to the tissues with a stronger affinity. This quality of the haemoglobin, determines the function of the red cells which are the oxygen carriers of the blood. The cell serves a variable period of usefulness and is finally broken up in the spleen. The white corpuscles which are present in normal blood in about the proportion of one to six hundred red cells, are primitive, undifferentiated cells being capable of carrying on within themselves, all the functions of life, assimilation, growth and reproduction. They have their origin in the bone marrow, spleen and lymphatic glands and have for their function the modification of the plasma. This they effect by working it over in their life processes and by certain elements which they add to it by their death and disintegration.

The plasma was described to us as a straw colored fluid containing serum albumen, serum globulin, fibrinogen, organic salts and water, varied largely in its composition by the nutritive materials which it carries in its stream to the various tissues which it bathes and the waste products from these tissues which it delivers to the various emunctories of the body.

*Paper read at annual meeting of Vt. State Medical Society in Rutland.

These facts we know now to be essentially true but research of the last decade has opened our eyes to the fact that this is not the whole truth. The blood stream can not be pictured by any such simple description. It is the most complex tissue in our body and no analysis of its composition can convey any idea of the multiplicity of its functions. No one can make a study of the subject without feeling overwhelmed with its immensity. We know very little about the blood now but we know infinitely more than we did twenty years ago.

To its function of supply carrier to the body cells, we find added that of protection. In the blood stream and by it are carried on the battles against toxic products living and dead, which are continually being waged for our preservation. The mechanism of this protective process is marvelous in its complexity and we can at best hope to get but a mere glimpse of its wonderful action. What little has been disclosed by physiological experimentation, is profoundly interesting.

The most tangible fact in this newer knowledge of the blood and its function is the action of the leucocyte in phagocytosis. The manner in which these cells attack certain foreign bodies, including bacteria, engulf them and dissolve them by an internal enzymic action, is too well known to need any further mention.

The properties most difficult of comprehension are found in the serum itself, possibly as secretory products of the leucocytes. Among these properties of the serum which are best known are the antitoxins; the therapeutic application of these products has rendered them familiar to every physician and as a discussion of all the properties of the serum is out of the question in the limits of a twenty minute paper, this phase of the question will also be dismissed with this scanty mention.

The normal plasma has been found to contain various enzymes, for instance, in the presence of the red corpuscles and oxygen the plasma is capable of destroying fat (lypto-enzyme). A diastatic and a glycolytic enzyme capable of changing starch into maltose and dextrose and destroying sugar respectively, have been demonstrated. Furthermore the normal serum contains certain substances, probably enzyme in nature, which are capable of destroying foreign cells. This process is known as cytolysis and the substances producing the

solution, are called lysins. Thus the serum of some animal species quickly destroys blood corpuscles of other species. Where the cells affected are blood cells, the process is called haemolysin. This power differs greatly in different animals. Thus the serum of the horse has little deleterious effect on human blood corpuscles while the serum of the sheep or the eel will quickly destroy them. The natural immunity of man and certain animals to certain infectious disease is partly explainable by the property (lysin) which they have in their blood serum which destroys the bacteria of these diseases. Other elements, phagocytosis, lack of cell receptors, presence of receptors or unimportant cells, etc., are also in effect.

Whether normally present or not, it has been found that these cytolysins can be developed artificially by introduction of the foreign cells into the animal whose serum it is desired to charge. Thus Pfeiffer found that if cholera germs were placed in the peritoneal cavity of a guinea pig which had been previously immunized by the injection of small amounts of dead cholera cultures, they were dissolved. Bordet treated guinea pigs at intervals with the blood of rabbits and obtained from the former animal a serum which dissolved the blood corpuscles of the latter with great intensity. Since this time, these experiments have been repeated with almost every conceivable form of cells until a universal law has been demonstrated. The lysin obtained in each case is specific—that is, a serum immunized against any cell will only dissolve that kind of cell. Thus a goat immunized by repeated injections of sheep blood will develop a serum which will dissolve the blood of the sheep only, having no effect on spermatozoa, epithelial cells, from the same sheep and an uncertain effect on the blood corpuscles of other sheep. Erlich has further shown that it is possible to immunize the blood of one animal against another individual of the same species. For this action, he suggests the term isolysis. When the reaction is between different species, he uses the term heterolysis, reserving the term autolysis for a yet unproved possible action of the serum of an animal against its own corpuscles.

A fact early noted by Pfeiffer added to the complexity of the solvent action of the blood on cells. In test tube experiments he was able to demonstrate the same haemolytic action of immune serum but on keeping the serum for some time, the power gradually disappeared. However, when this (inactivated) serum was introduced into the peritoneal cavity of an animal, it was found to have as much haemolytic power as before. (It was reactivated.) This same reactivation was observed in the test tube on the addition of some fresh normal serum of itself incapable of dissolving the cells. It has finally been proven by a mass of experimentation, too intricate to be detailed here, that cytolysis is produced as a result of the action of two separate bodies, one of which is thermolabile, that is destroyed by a temperature of fifty-five degrees, while the other is thermostable, that is unaffected by heat. This phenomenon is explained by Erlich by assuming that the bacteriolytic action is caused by two chemical groups, one of which he calls the complement and the other the intermediary body. The complement is the group which actually produces the destruction of the cells, while the intermediary group simply serves by a double affinity, to unite the complement and the cell. In other words, this complement or ferment body, can not unite chemically of itself, with the cell, but can unite readily with the intermediary bodies. This also unites even more readily still with the cell and when the three are combined, a chemical reaction takes place which results in cell solution. Examples of this sort of chemical union brought about between three compounds, two of which are incapable of uniting directly with each other, are very common in organic chemistry. Thus phenol and hydrocyanic acid will not combine directly with each other, but with diazzo-benzaldehyde acting as an intermediary body, these two substances can be brought into combination. It has furthermore been proven, that the complement or ferment body or bodies, exist normally in the serum and are capable of dissolving almost any form of proteid, living or dead, provided the proper intermediary bodies are present. It is the formation of these bodies which is stimulated by the process which we have termed immunization, usually produced by repeated injections of the cells against which immunization is to be established. The sources of these intermediary bodies has never been absolutely determined, but there is reason to believe they are products of the leucocytes and less often of some of the fixed cells of the body. They are in the nature of anti-bodies, formed by

an overproduction of cell atom groups produced as a result of the demand to replace those bound by the invading cells.

Thus we see that we possess in our own blood plasma, ferments that are capable of destroying our own blood cells, and that these measures intended for the protection of our own bodies against the invasion of foreign cells, may by some abnormal and obscure stimulation, work our own destruction.

Autolysis has so far never been produced experimentally, but the form of cell destruction seen in some varieties of anaemia, is certainly suggestive of such an action. The therapeutic use of this principle in the treatment of disease by stimulation of bacteriolysins is applicable to those infections only which do not produce a rapid toxaemia. Unfortunately these diseases are in general produced by bacteria of the endocellular toxic variety and the solution of large numbers of these cells is attended with grave danger to the individual. The body seems to lack power of rapidly producing an antitoxin for this variety of poison. This was the cause of primary failure of the tuberculin treatment of phthisis. Wright's contributions to our knowledge of these diseases has shown that with the bacteriolytic principle, we often have developed other bodies which uniting with the bacterial cells, fall short of producing actual solution, yet succeed in rendering the bacteria susceptible to the leucocytes (opsonins) thus resulting in digestion within these cells, rather than rapid solution in the plasma—a much safer process. It can be stated, however, as a general law, that wherever opsonins can be developed by the introduction of the dead bodies of bacteria, bacteriolysins can also be produced by a more energetic treatment of the same kind. The use of sera having specific bactericidal properties has been tried practically on a large scale with man, as a preventative of infection. In some of the susceptible animals, injection of some of the very virulent bacteria, as pneumococci, streptococci, typhoid bacilli, and cholera-spirillae can be robbed of all danger if small doses of these respective sera are given before the bacteria have increased to any extent in the body. If given later, they are ineffective. Parkes says "For some bacteria, such as tubercle bacilli, no serum has been obtained of sufficient power surely to prevent infection. Through bactericidal serums, therefore, we can immunize against many infections and even stop some just commencing: but as yet we cannot cure an infection which is already fully developed, though even here there is reason to believe that we may possibly prevent an invasion of the general system from a diseased organ, as by the pneumococcus from an infected lung in pneumonia. On the whole, the serums which simply inhibit the growth of bacteria without neutralizing the toxins have not given, as observed in practice, conclusive evidence of great value in already developed disease."

Certain bacteria, e. g. the streptococcus, produce ferments which are in themselves bacteriolytic, and in these infections we have a reciprocal action, the body cells tending to dissolve the bacteria and the bacteria in turn producing substances which tend to dissolve the body cells. In these cases where we have living cell against living cell, we see a curious demonstration of another protective mechanism of nature, i. e. the development of antitoxin, the combining of cell groups which may be conceived to exist on both bacteria and body cell for the primary purpose of uniting with and absorbing food supplies becoming engaged with the bacteriolysins on the one hand, and the bacterial toxins on the other, in self defense throw out numerous other receptors which in accordance with the general laws of hypercompensation are produced in superabundance and become loose in the serum. These loose receptor groups attach themselves to corresponding groups of toxins and bacteriolysins, thus satisfying their affinities and preventing them from uniting with the cell.

Another interesting phenomena, is the production in the blood plasma, co-incident with the lysins, of the substances which will cause a precipitation in the blood or a very weak solution of the blood against which immunization is produced. This principal is of great forensic value as a test for the source of blood stains. It is only necessary to immunize the blood of a rabbit by five or six injections of human blood serum to produce a serum in this rabbit which added to a weak solution of human blood will cause a heavy precipitate. This action is specific and will only take place with the blood of human beings.

Another property of blood serum which promises to be of considerable importance is the development of hyper-sensitization against

foreign blood serum. It has long been a subject of observation that guinea pigs inoculated with one dose of horse serum showed no ill effect but if after a certain length of time they were subjected to another inoculation, death usually resulted. The first dose apparently sensitizes the animal to the next. The minimum period which must necessarily take place between the first and second dose is quite definite, nine or ten days. After this sensitization has once been produced, the animal remains in a susceptible condition through the rest of its life. Immunization against this hyper-sensitization can be produced by repeated inoculation within this first ten day period or by recovery from the acute symptoms of a second inoculation. Extremely minute doses (one-one thousandth c. c.) of serum are capable of producing the sensitization. Moreover this condition is transmitted to the offspring of the mother. A guinea pig born of a sensitized mother, usually dies on the first inoculation.

What is supposed to be a manifestation of this principle, is seen in the tuberculin reaction, the tubercular patient being in a sensitized condition. Another example is the reaction produced by Calmette's eye test when a second application of tuberculin is made to the same eye. A reaction will take place under these conditions in normal eyes. It is probable that the so-called serum disease which sometimes follows the second injection of antitoxin is a manifestation of the same principle. It certainly raises the question of the possible dangers of second administrations of antitoxin at some interval after a primary injection and it is significant that it was in studying certain cases of sudden deaths following antitoxin administration, that the principal became known. Experiment has shown that refinement of antitoxin by the separation of the non-antitoxic globulins in no way affects the toxic power of the product, bulk per bulk, the only advantage being that this method reduces the volume of serum which it is necessary to use.

Other acquired properties of the serum whose function is less easily understood, are the agglutinins and aggressins. The most familiar example of the former action is the serum reaction of Widal which is so commonly made use of as a diagnostic sign in typhoid fever. An infection with or artificial introduction into the body of certain cells leads to the production of something in the serum which causes the bodies in vivo or in vitro to mass together or agglutinate. At first it was thought that this was simply a step in the process of cytolysis but instances where the one or the other of these properties has occurred independently, shows this to be false. The reaction seems to have no relation to the severity of the infection. The phenomena is proved to be due to the accumulation of some substance in the serum as a result of the stimulus exerted by the foreign cells which attach themselves directly to these cells, altering them in some way.

The term aggressin has been applied to properties which are found in the exudate produced by some infection and which introduced into another organism increase greatly the virulence of the infection. Neither the exudate or the bacteria alone produce any such result. Bail, the originator of the agressin theory, thinks that the effect is produced by an endotoxin liberated from the bacteria as a result of bacteriolysin and that it acts by paralyzing the polynuclear leucocytes, thereby preventing phagocytosis. It has been found possible to immunize animals against these aggressins by repeated injections of the exudates freed from bacteria.

There are still other bodies which attack the cell and render it more susceptible to the action of the leucocytes. These are termed opsonins by Wright and opsonic therapy which promises so much with a limited class of infections, consists simply of producing these bodies by introducing as vaccines, carefully regulated doses of the bacteria of the infection to be treated which have been killed by heat.

Thus we see that the serum carries in it normally or as the result of stimulation, a great number of bodies, many of them of great complexity, having for their purpose the defense of the body against every conceivable microscopic foe. Comprehending this, we can see what a powerful therapeutic force we have in this wonderful fluid and if once its properties become known, what a tremendously far reaching science, serum therapy will be. It is the rational method of treating the infections and a large class of diseases whose etiology is now obscure. It is very easy to picture a glowing future for the new therapeutics, but the story of the past warns us of many impending disappointments. The limitations of human intelli-

gence and skill are far too narrow to give us ground for hope for a mastery of this subject, yet we can safely predict great advances.

DISCUSSION.

Dr. C. F. Ball, Rutland, Vermont.—It seems rather difficult for one out of laboratory work to open the discussion of a distinctly laboratory paper as that of Dr. Stone's.

The technique I will not attempt to go into. There are two classes of physicians working on opsonic therapy: 1—those trying to make a serum that will increase the opsonic index; then 2—those who are trying to get ways of increasing the opsonic index by physiological methods. Both methods are to accomplish the same result. In the serum treatment you give 10,000 gr. of the dead bodies of the tubercle bacilli, or any other organisms necessary; this increases the opsonic index from .05 in low cases to 1.2 or sometimes as high as 2 as convalescence advances. There is a chance of increasing the opsonic index by graduated exercises, from the fact that work increases the production of opsonins. Any increase of the opsonic index affects the bacteria so the phagocytes can get at them to destroy them. Graduated exercises tend to produce in the system, opsonins, the same as when you introduce the serum of dead bodies of tubercle bacilli. The value of the opsonic index in tuberculosis is great, especially where you have a mixed infection. It may not be the tubercle bacilli which are doing the most damage; it may be streptococci or some other organism. The first thing is to get your mixed infection isolated in order to find out which is causing the most trouble. In diphtheria, some of the carriers of diphtheria instead of going on for four, five or six weeks, with K. L. B. in their throats, can be cleared up by giving a proper dose of the dead bodies of K. L. B. in order to raise this opsonic index, thus destroying the germs in the throat at an earlier date. Because opsonic therapy is very complicated, we may not all use it, but the work of developing the opsonins is going to establish a certain definite line of treatment in many diseases. We can none of us expect to do this work, only as it is done in the laboratories for us. We should consequently follow the laboratory workers and they will follow us in getting this established treatment.

Prof. Godfrey R. Pisek, New York City.—I would like to say that I am glad we have in America as well as in Germany, men who are not only willing but glad to spend their time working in laboratories. We must get the results from the laboratories and we must keep in touch with them so we may be prepared to use these results in our practice. A paper like Dr. Stone's, teaches us the value of keeping in line with work done in a laboratory so we may use the results in every day practice. I thank Dr. Stone for preparing such an interesting paper.

Dr. B. H. Stone, Burlington, Vt.—There is nothing which I wish to add except to say that the treatment by opsonic therapy simply consists of introducing hypodermically, some of these vaccines which you can get prepared for you very easily. These introductions are made at stated intervals. The index is generally lowered after the first injection. If a second injection is followed too soon, the index is lowered still more. After a negative period is ascertained, these injections may be made at stated periods as the negative period is always the same in the same patient. Opsonic therapy will only be applicable to a certain class of chronic cases.

American Party, International Medical Congress, August 29 to September 4.—For the benefit of those who contemplate attending this Congress, we would state that ample arrangements have been made for hotel accommodations in Budapest, a large number of rooms having been engaged a year or more ago, in the Hotel Hungaria, for the members of the American party. Reservation should be made this month, to insure good rooms. Those who join this party will have no worry as to details, a competent guide being in constant attendance. The cost of the entire trip, including a week's board in Budapest, meals en route, railroad fare, tips, first-class steamship both ways, carriages for sight-seeing, visiting hospitals; forty-one days, $395.00. Sail from New York August 12. Full information and itinerary may be obtained by addressing Dr. Chas. Wood Fassett, secretary Medical Society of the Missouri Valley, St. Joseph, Mo. (New York Headquarters, Grand Hotel, Broadway and 31st street; Atlantic City address, Grand Atlantic hotel).

Those who desire membership in the congress may send their application to Dr. J. H. Musser, chairman American Committee, Philadelphia, accompanied by a fee of $5.00, and professional card.

The International Leprosy Congress will meet in Bergen, Norway, this year. The United States representative at the Congress will be Dr. Wm. J. Goodhue, who for the last four years has been resident physician at the Leper Settlement in Molokai, Hawaii.

Typhoid Pyonephrosis.—Meyer and Ahreiner report a case in a girl of 16, a chronic bacillus carrier. She had passed through measles, scarlet fever, whooping cough, pneumonia, typhoid with left pyonephrosis and diphtheria all before the age of 9. Trouble recurred in the left kidney, and it was removed after eight months of symptoms. The typhoid bacilli were voided exclusively in the urine, which became sterile after the nephrectomy.—*Medizinshe Klinik.*

Vermont Medical Monthly.

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EDITORIAL.

This spring has seen many of the towns of the State visited by an unusually large and wide-spread epidemic of measles. This is one of the few communicable diseases upon which modern sanitation has had little effect. La-grippe, typhoid fever and scarlatina are steadily decreasing and out-breaks are so ususual that they attract wide-spread attention but not so with measles.

Furthermore, the severity of the disease seems to be in no way abated. This fact is so unusual and so out of accord with the universal trend of sanitary progress that it is bound to raise the question in the mind of any thoughtful student of epidemiology. The reasons are not hard to find. In the first place it is one of the infective diseases whose specific cause is not known. It must ever be handled at a disadvantage until this deficiency in our knowledge is supplied but this alone will not account for the facts. The causes of small pox and scarlatina are equally uncertain. Then again, it is a disease whose early diagnosis is difficult. Many cases are taken at first for simple catarrhal coryza and no attempt made at restriction during the early and probably most infective stage but neither are all cases of scarlet fever easily diagnosed in this stage. The essential difficulty in the restriction of this disease is undoubtedly the general conception that it is trivial and that it is best to have it in early life. This is a double fallacy. The second fallacy of the argument presupposes that every one must have the disease during life which is of course begging the question, but even if this were so, a study of the mortality tables of this State of the last six years shows that measles have caused twice as many deaths as scarlatina and nearly as many as diphtheria and furthermore that the death rate is greatest under two years of age diminishing steadily therefrom. But the mortality tables do not even so do justice to the facts The disease predisposes and leads up to other diseases—acute and chronic. Many cases which appear in the table as pneumonia or tuberculosis are really but the sequellae of measles. So long as these erroneous ideas are general there can be little hope of checking the prevalence of the disease. And right here the general practitioner is at fault. These ideas are not only not corrected but are often times we fear fostered by physicians who ought to know better. It is a rank survival of presanitary days for any physician to advise subjecting children to infection with the so-called children's diseases and yet it is certainly done either directly or in a negative way by many of our leading physicians.

Neglect in quarantine is almost universal. This is sometimes the fault of the health officer no doubt, but more often of the attending physician in failing to give notice. His duties are clearly prescribed by the law. "A physician who knows or suspects that a person whom he has been called to attend is sick or has

died of a communicable disease dangerous to the public health shall immediately quarantine and report to the health officer the place where such case exists and the name, degrees of virulence and cause or source of the disease, and such other facts relating thereto as may be necessary for the health officer to make examination and act in the premises; provided that if the attending physician, at the time of his first visit, is unable to make a specific diagnosis, he may quarantine the premises temporarily and until a specific diagnosis is made, and post thereon a card upon which the word 'Quarantine' shall be plainly written or printed. Such quarantine shall continue in force until the health officer examines and quarantines as is provided in this chapter."

The responsibility is shared by the head of the household if he knows of the existence of an infectious disease in his household and the penalty for disobedience is visited equally on physician and head of the family.

"The head of a family in whose home there occurs a case of infectious or contagious disease dangerous to the public health shall immediately give notice thereof to the local health officer of the town in which he lives:

"A head of a family or a physician who fails to give reasonable notice to the health officer of the existence of such disease, shall be fined not more than fifty dollars nor less than ten dollars, with costs of prosecution."

The physician is, of course, expected to make the diagnosis with more speed and accuracy and in case where the physician is called, the burden of the responsibility rests on him.

Whatever the physician's private views on the subject of the advisability of quarantine, he should be a law-abiding citizen. The law contemplates giving the general public the greatest amount of protection from these diseases possible and if a person unwittingly entered a house with measles unwarned by a quarantine sign, the physician failing to give notice of the disease, or the health officer failing to post the notice, could certainly be held morally and legally responsible.

These failures are probably more often the result of carelessness rather than actual disregard of the obligation but such carelessness borders on the criminal. The prevention of many cases of disease is surely a greater duty than the cure of one and no one would deny the absolute obligation of any physician to cure where possible.

Measles should grow less and less prevalent until a wide-spread epidemic like the one of this spring, becomes a great rarity. This can only be accomplished when every physician does his duty and when every case of acute coryza is looked upon with suspicion. Children in this condition should be kept at home from school until well and every doctor should impress upon his patient that these children are sick. Teachers should be instructed to exclude such pupils from school and school boards should back them up in this.

This can only be done when all practitioners advise it. Doctors, don't forget that you have duties of prevention as well as cure. It is to you that the people must look for sanitary advise and a little unwisely expressed skepticism may do a tremendous amount of harm.

With the meeting in Bennington (May 18th-19th) the spring campaign of the Tuberculosis Commission has been finished. The exhibit will be placed during the summer in the south end of the ground floor of the Laboratory of Hygiene building where it will be open subject to inspection during certain hours each day. Meetings have been held in eight towns with an attendance of fifteen thousand (15,000). The general interest in every town evinced by the number and attention of the visitors, has been a matter of surprise. It

shows that the lay public is thoroughly alive to the gravity of this disease. Such an educational campaign can not fail to be of great value in teaching prophylaxis to the uninfected and instilling ideas of cure into the minds of the afflicted. The medical men in the larger towns have not shown a proportional amount of interest, by their attendance at least. We are fain to ascribe this to the multitudinous calls upon their time and to the idea that the meetings were particularly intended to instruct the laity, as of course they were. We can not condone in this way, however, for the failure of physicians to report their cases of tuberculosis. When the number of deaths far exceed the number of cases of this disease reported, it shows a lamentable lack of co-operation on the part of the medical men in the state. Only by knowing the location of every case of tuberculosis can anything like a systematic fight for the repression of the disease be carried on. This is a duty requiring only a trifling exertion on the part of each physician and should be cheerfully performed.

Commenting on the value of an anti-tuberculosis campaign which has been carried on in New York State on lines similar to those used by our commission, the New York State Journal says in part:

"A poor man who is also tubercular is not as a rule a prolific wage-earner. Disease forbids. He has lost his immunity to tuberculosis because of insufficient feeding, and the necessity which has compelled him to live in a dog-kennel, and eat meat perhaps once a week, if he is lucky. When our sanitarians tell these poor victims that the cure of consumption consists in a change of their method of life they really offer them a stone instead of bread. Of what use are all these instructions to the man who is trying to bring up a family on $10 per week, and who lives in a tenement, the landlord of which wrings from him a rental which represents 10 per cent. on the investment, perhaps more. Moreover, he pays for everything else in proportion. Coal by the bucket means coal at the rate of $25 per ton. Many of these families scarcely see meat from one week's end to the other. W. A. Russell who did the computation for the congestion exhibit states that there are 12,000 women in New York City who are unable to nurse their babies because of semi-starvation and overwork. What these people need, if we are really to solve the problem, is an economic change and the sanitary change will not lag far behind. To preach the doctrines of hygienic living and the value of proper nutriment to people who have not the wherewithal to carry the instructions of the sanitarian and dietitian into effect is little short of mockery. "We asked for bread and have received stones." Stones for bread! Stones for bread! That is what society has been giving these poor victims of its own malpractices and congratulated itself on its virtuous and abundant charity.

The problem of tuberculosis is really only in part medical and sanitary. It is primarily an economic, a sociological question. It is but the simulacrum of charity, and a measure of hypocrisy for society, first to destroy the immunity of the individual by exploiting him as a wage earner, putting him in competition against his fellow sufferer, buying its labor at the cheapest possible rate, a starvation wage, and then to congratulate itself on its tuberculosis exhibit. The tubercular poor lose their immunity, because of the dreadful conditions in which they live. They live in these conditions, not from choice, but because they are compelled to by a harsh and selfish civilization, which is willing to fatten on the bodies of men, women and little children.

There is much truth in these comments as far as they relate to conditions in the great

cities. In country towns, the tenement question is not such a stumbling block and a knowledge of right methods of living can here be put in practice to some extent at least by almost every one, but even in the great cities, where conditions are at their worst much of this is due to ignorance. Once let the great submerged truth comprehend the whole truth and the pressure for better things will be felt. No great sociological reforms come spontaneously. Much agitation is absolutely necessary. Nothing will be more likely to force the rich greedy landlord to furnish better tenements than the knowledge that he is causing the death of many of his less fortunate brothers and the knowledge of the fact that this is known, not only to that brother but by the world at large. No man cares to be branded a murderer even though this is his only punishment.

NEWS ITEMS.

A daughter was born to Dr. and Mrs. C. H. Beecher, May 17.

The Maine Medical Association meets at Portland, June 16-17.

The Massachusetts Medical Society meets at Boston, June 15-16.

Dr. C. H. Smith of McIndoes, Vermont, has located in Warren, Vermont.

Dr. M. E. Cotter has gone to South Woodbury, Vt. from Northfield, Vt.

The American Academy held its annual meeting at Atlantic City, June 5-7.

Dr. G. M. Barber has removed from Lisbon, N. H., to West Stewartstown, N. H.

Dr. Diego Delfino, who was at Rutland, Vt., for a short time is now located in Barre, Vt.

The Connecticut State Medical Society held its annual meeting at Hartford, May 26-27.

The annual meeting of the American Medical Association was held at Atlantic City, June 8-11.

Dr. John D. Hanrahan, Rutland, celebrated the fortieth anniversary of his entrance into practice, April 12.

Dr. H. H. Hayward, who has been at Tunbridge, Vt., for eight years has removed to Randolph, Vermont.

Dr. Ezra Mitchell of Lanchester, N. H., died at his home on April 20th, aged 67 years. He was known as the father of the State Sanatorium for Consumptives.

Dr. and Mrs. W. G. Church of Burlington, who have been spending the winter in California have returned home.

Mrs. Helen Hoit Holton, wife of Dr. H. D. Holton, secretary of the State Board of Health, died at her home in Brattleboro, May 14th.

Dr. A. E. Parlin, Orleans, Vermont, announces that Dr. E. M. Cleasby, formerly of Lisbon, N. H., is now associated with him in practice.

Dr. John W. Stewart who recently entered practice in Barre, Vt., is at this writing critically ill of pleuro-pneumonia in the hospital of that city.

Dr. John J. Cronin is conducting a lecture and laboratory course in School Hygiene and Sanitation at the New York Post-Graduate Medical School.

Dr. Henry Albert Crandall of Burlington died at his home May 6, aged 77 years. Dr. Crandall graduated from the Castleton Medical College in 1859.

Dr. James Robie of Black River Falls, Wisconsin, died at his home in that city from heart disease. He was graduated at the Vt. Medical College, Woodstock, 1853.

Dr. Chas. Appleton Packard, Bath, Me., died at his home March 23rd, aged 80 years from arteriosclerosis. Dr. Appleton graduated from the Medical School of Maine in 1856.

Dr. Thomas Worcester Dike of Bath, Me., died on April 17th at Westboro, Mass., after a lingering illness, aged 43 years. He graduated from the Maine Medical School in 1890.

Dr. E. T. Brown, who has just finished a post graduate course on the eye and ear at the University of Vienna has returned to America

and contemplates opening an office in Burlington.

Dr. A. A. Pratte has been appointed on the staff of Elliot City Hospital, in place of Dr. Gardner C. Hill resigned. Dr. Hill has served on the staff since the founding of the Hospital in 1892.

Burlington and Chittenden County Medical Society held its regular monthly meeting May 20. Dr. Shands of Washington gave a paper on the "Early Diagnosis of Tubercular Diseases of the Hip Joint."

The Washington County Medical Society met at Montpelier, Tuesday evening, May 18th. Prof. A. P. Shands read a paper on the Importance of Early Diagnosis and Treatment of the Early Stage of Hip Disease.

Dr. I. N. Vandandaigue who has been practicing medicine at St. Paul, Ore., has moved with his family to Winooski, where he has opened an office. Dr. Vandandaigue practiced in Winooski previous to his going west.

Dr. Charles B. Porter died at his home in Boston, May 21, at the age of 69 years. Dr. Porter was born in Rutland. He received his A. B. and M. D. degrees at Harvard and was for twenty years professor of surgery at this institution.

Dr. C. H. Burr won first prize for amateurs in the shooting contest held by the Montpelier Gun Club May 13. Dr. Burr defeated Jack Fanning of New York in Boston, May 3rd, but was defeated by him in the two days shoot at Montpelier.

With the exhibition at Bennington, May 18 and 19, the tuberculosis commission has finished its first series of meetings. The exhibit has visited eight of the larger towns. Seventeen public lectures have been given. The total attendance has been over fifteen thousand.

Dr. Walter J. Dodds U. of Vt. College of Medicine '08 has been appointed at the head of the newly organized department of Roentgenology. Dr. Dodd is giving lectures and demonstrations on the same subject at the College of Medicine of the University of Vermont.

Dr. Ira J. Prouty has been appointed Pension Examining Surgeon in Keene, in place of Dr. Gardner C. Hill, who has resigned the office.

Dr. L. J. Pons of Roxbury, Conn., (U. V. M. 1885) has been appointed a member of the Connecticut State Board of Health for six years from July 1, 1909.

Dr. Gerardus H. Wynkoop, aged 65, an eminent New York surgeon and one of the first physicians in America to perform the operation for the removal of the vermiform appendix, died May 17, at his residence in Madison avenue. While the nature of his malady puzzled physicians, he diagnosed the disease himself as appendicitis.

During the last quarter there have been 20 patients discharged from the Vermont Sanatorium at Pittsford. Of this number there were only two who have not improved. The others have been apparently cured or the disease arrested. There are now 28 patients at the institution. The capacity of the sanatorium has been increased to 40 by the completion of the addition.

Dr. C. F. Dalton has been chosen to fill the position of medico-legal chemist at the Laboratory of Hygiene, succeeding Dr. L. P. Sprague.

Dr. Wm. Denning of Worcester (U. of Vt. College of Medicine '99) who has been in Vienna for the last 18 months expects to return early in July and resume his practice which has been looked after during his absence by Dr. Morse.

The Kennebec County Medical Association held a meeting in Waterville, Me., May 24th, at which the following program was carried out: "The Public Health," H. D. Evans, Augusta; "Spinal Disease," Dr. John L. Adams, Boston; "Asthma," Dr. C. W. Abbott, Waterville; "Diseases of the Kidney," Dr. H. H. Germain, Boston.

Dr. Gardner C. Hill has published an illustrated article in the Granite Monthly on "Early Physicians of Cheshire Co.," of 18 pages. Some of the physicians mentioned became prominent in the Medical Colleges, or otherwise, in Vermont, Massachusetts and New York. Copies will be sent on receipt of 17c in stamps to Dr. G. C. Hill, Keene, N. H.

The New Hampshire State Medical Society held its 118th annual meeting in Concord on May 13th and 14th. The following officers

were elected for the ensuing year: President, Dr. Frank S. Blaisdell of Goffstown; vice-president, Dr. A. S. Wallace of Nashua; business councilors, Dr. H. H. Faulkner of Keene, Dr. E. M. Fitts of Claremont, and Dr. Fred von Tobel of Lebanon; member of board of trustees, Dr. S. M. Dinsmore of Keene.

Dr. and Mrs. John Goodell observed the 50th anniversary of their marriage at their home in Hillsboro May 17th. No public reception was held, but many of their friends and townspeople called to extend congratulations and best wishes. The doctor was born May 18, 1829, and has always lived in Hillsboro. He is a graduate of the New York College of Physicians, class of 1859 and practiced for a few months in Webster, but came to Hillsboro at the time of his marriage.

The Franklin County Medical society held its annual meeting in Pythian hall, St. Albans, May 7th. Officers for the coming year are as follows: President, Dr. Alan Davidson, St. Albans; vice-president, Dr. A. I. Pratt, Enosburgh Falls; secretary and treasurer, Dr. E. A. Hyatt, St. Albans; delegates to the State convention to be held at White River Junction in October, Dr. C. S. Schofield of Richford, Dr. Arthur O. Morton of St. Albans, Dr. J. R. Patten of East Fairfield; board of censors, Dr. F. W. Norris of Swanton, Dr. John Gibson of St. Albans and Dr. G. C. Abell of Enosburgh Falls. Following the annual address of the president, Dr. W. W. Hutchinson of Enosburgh Falls read an obituary of the late Dr. J. H. Hamilton of Richford. The society dined at the American House.

Dr. Andrew H. Hodgdon, medical examiner for Norfolk Co., Mass., was recently vindicated by a jury in a malpractice suit brought against him by a Mrs. Morton for $50,000. The case was such a unique one that we give the main facts here.

Mrs. Morton, who was living in Hyde Park at the time, was an important witness for the government in a criminal prosecution in the Norfolk court on Dec. 15, 1902.

That morning word was received by Dist. Atty. Asa P. French, who is now U. S. district attorney, from Mrs. Morton that she was ill and was unable to attend the session and testify as a witness. Mr. French sent Dr. Hodgdon as medical examiner to make an examination to ascertain whether or not Mrs. Morton was able to attend court. Dr. Hodgdon gave his opinion that she was, and Deputy Sheriff William Wragg, who accompanied him brought Mrs. Morton to Dedham.

Mrs. Morton maintained that she caught cold on the trip and put the responsibility on Dr. Hodgdon. She then entered a suit for $50,000 damages. The jury received the case and after a half hour's deliberation gave the verdict for the defendant.

An organization to improve the hygiene of infants has been organized in Boston under the name of the "Committee on Milk and Baby Hygiene." The aim is to teach mothers how to wash, dress and care for their babies as well as feed them.

A central office has been established at 4 Joy street and Walter E. Kruesi has been engaged as director.

The committee will establish new stations—the first one in South Boston. A nurse is to be provided at each station, so that every mother obtaining milk from the committee will have the advice of a professional woman.

The present nine stations are located at the Elizabeth Peabody house, Denison house, South End union, Roxbury neighborhood house, Woodbury's drug store, Maverick Sq., Downing's drug store, Thompson Sq., and Whiting's, 570 Rutherford Av.

The committee will at once begin a campaign of popular education on getting clean milk and keeping and handling it properly. Classes of mothers will be organized and instructed. On Friday at 4 there will be a public meeting in Faneuil hall. The speakers will be Dr. George W. Goler, health commissioner of Rochester, N. Y., Prof. Emil Berliner of Washington, D. C., and Wilbur Phillips, secretary of the New York milk committee.

The committee consists of Mrs. Mary Morton Kehew, chairman, Dr. Walter G. Cannon, secretary, Mrs. E. A. Codman, Mrs. Charles F. Whiting, Dr. Ralph C. Larrabee, Dr. Samuel H. Durgin, Dr. John L. Morse, Robert A. Woods, S. F. Hubbard, Dr. Elizabeth B. Newman, Mrs. William L. Putnam, Miss Helena S. Dudley, Mrs. Eva White, Miss Mary H. Burgess, Miss Mary L. Strong and A. H. Brooks, treasurer.

ORIGIN OF THE RECENT OUTBREAK OF FOOT-AND-MOUTH DISEASE.

From the Bureau of Animal Industry, United States Department of Agriculture, Washington, D. C.

The recent outbreak of foot-and-mouth disease in Michigan, New York, Pennsylvania, and Maryland started from calves used in the propagation of smallpox vaccine virus which had been contaminated with the virus of foot-and-mouth disease, and the contaminated strain of vaccine originally came from a foreign country. These are the conclusions from an investigation made jointly by the Bureau of Animal Industry of the Department of Agriculture and the Public Health and Marine-Hospital Service of the Treasury Department, a report of which has just been issued. The investigation was conducted by Dr. John R. Mohler, chief of the Pathological Division of the former Bureau, and Dr. M. J. Rosenau, director of the Hygienic Laboratory of the latter Bureau.

Foot-and-mouth disease was discovered among cattle in Pennsylvania, November 10, 1908, and was reported to the Department of Agriculture by the State veterinarian of Pennsylvania. A few days later it was found also in Michigan, New York, and Maryland. In view of the strict quarantine maintained by the Department of Agriculture on imported live stock and the fact that the importation of ruminants from countries where this disease existed was prohibited entirely, the Department considered it highly improbable that the infection was brought in with animals. When, therefore, the disease was traced by inspectors of the Bureau of Animal Industry to calves that had been used for vaccine by a Detroit establishment (Parke, Davis & Co.), and the cases of longest standing were found among these calves, these facts caused Secretary of Agriculture, James Wilson and Dr. A. D. Melvin, Chief of the Bureau of Animal Industry, both of whom had gone to Detroit to make a personal investigation of the outbreak, to suspect that the vaccine was contaminated with the virus of foot-and-mouth disease. As the United States Public Health and Marine-Hospital Service was charged by law with the supervision of biological products used in human medicine, that Service was requested to join the Bureau of Animal Industry in making an investigation.

The main facts regarding the outbreak as brought out in the report are as follows: The H. K. Mulford Company of Glen Olden, Pa., imported certain smallpox vaccine virus which was contaminated with the infection of foot-and-mouth disease. In May, 1908, some vaccine of this strain was procured by Parke, Davis & Co., of Detroit. Calves used by the latter firm in propagating vaccine, were sent October 16 to the Detroit stock yards and thence on the same day to a farm near Detroit. On October 20, three carloads of cattle from points in Michigan reached the Detroit stock yards and were put into the pens that had been occupied by the vaccine calves four days previously. Some were sold for slaughter at Detroit, while the remainder were shipped to Buffalo and some were reshipped to Danville and Watsontown, Pa., where the disease was first observed some days later. The disease spread to various places in Pennsylvania and New York and to one locality in Maryland.

Three separate series of experiments were made by Doctors Mohler and Rosenau. Young cattle and sheep were inoculated with vaccine virus obtained from both firms. Foot-and-mouth disease was produced in experimental animals by the use of vaccine of the same strain obtained from both sources, while other strains of vaccine tested, gave negative results. The disease was also transmitted from one animal to another through several series, in two instances by natural modes of infection.

The investigation also indicates that the outbreaks of foot-and-mouth disease in New England in 1902-3 were probably due to contaminated vaccine of Japanese origin from the Mulford Company. While an investigation was made at that time, the results were confusing so that it was not definitely determined that the outbreaks were due to contaminated vaccine virus. In the recent investigation by Doctors Mohler and Rosenau, however, they used animals which had been vaccinated and were therefore immune to vaccinia or cowpox, so that in case the infection of foot-and-mouth disease was present in the vaccine under suspicion, the lesions of that disease would not be suppressed or obscured by those of vaccinia. By this method and by means of intravenous inoculation they were able to detect the contaminating infection when it might not otherwise have been discovered.

The fact that the infection was present in the vaccine virus of the Mulford Company for so long a period, but was not transmitted to outside cattle, was doubtless due to this firm's practice of killing its calves after taking the vaccine virus. Parke, Davis & Co., on the other hand, rented their calves and placed them again on the market a short time after the vaccine material was taken. In this way the disease spread from the vaccine stables of Parke, Davis & Co., but not from those of the Mulford Company, although it was the vaccine virus from the latter establishment that infected the former's cattle.

According to Doctors Mohler and Rosenau, foot-and-mouth disease is primarily and principally a disease of cattle, and affects man only secondarily and casually. Children are occasionally infected by drinking unboiled milk during the periods in which the disease is prevalent in the neighborhood, while persons in charge of diseased animals may become infected through contact with the diseased parts or by milking, slaughtering, or caring for the animals. The disease when communicated to man, however, is very seldom fatal, the affection usually being too slight to come to the notice of the family physician.

As soon as the facts regarding the contamination of vaccine became known, the licenses of the two firms involved were at once suspended, all the suspected vaccine virus on hand was destroyed and that upon the market withdrawn, and other measures of a radical nature were taken. The report commends the intelligent and prompt cooperation of the Mulford Company and Parke, Davis & Co., in accomplishing this end. After an examination of every strain of vaccine upon the market it is stated that there is now upon the market no vaccine contaminated with the virus of foot-and-mouth disease. Regulations have been formulated with a view to preventing hereafter the propagation of contaminated vaccine virus. No instance of the transmission of foot-and-mouth disease to man through vaccine virus has been recorded, and it is considered doubtful, in view of the tests made, if it is possible to reproduce the disease in him by the cutaneous inoculation commonly used in the process of vaccination.

The recent outbreak of foot-and-mouth disease in live stock has been eradicated after vigorous work by the Bureau of Animal Industry in cooperation with State authorities, involving the expenditure of $300,000 by the Federal Government alone. The quarantine on the last of the infected territory was removed April 24.

A teacher had been telling her class of boys that recently worms had become so numerous that they destroyed the crops, and it was necessary to import the English sparrow to exterminate them. The sparrows multiplied very fast and were gradually driving away our native birds.

Johnny was apparently very inattentive, and the teacher, thinking to catch him napping, said: "Johnny, which is worse, to have worms or sparrows?" Johnny hesitated a moment and then replied: "Please, I never had the sparrows."—*Western Medical Review.*

To Destroy Flies.—Delamarre of Paris, advises that a solution of formal in water, one part to nine be put on plates; 24 hours later not only the plates but a considerable space around them will be covered with flies and mosquitoes which have been attracted by the mixture and its emanations. The solution should be changed every day.—*Medical Times.*

Transfusion of Blood for Pernicious Anemia.—Robert Lucy, of Guelph, Ont., reports the case of a woman who was operated on for abscess of the kidney successfully. Nine months later she became pregnant and developed pernicious anemia. After the birth of an eight-months child her condition became so bad that blood was transfused from her husband's arm. The good results were immediate, and the patient is now in perfect health.—*Med. Record,* March 6, 1909.

The South Carolina State Board of Health at its meeting in Summerville, April 19, decided to establish a bacteriological laboratory at Columbia for the purpose of furnishing the physicians of the State a reliable and trustworthy place where bacteriological examinations may be made. Perhaps the most important feature of all will be the equipment for the application of the Pasteur treatment for rabies. Drs. Lester and Williams were appointed as a committee to make arrangements for the institution.

Bleached Flour.—All is not gold that glitters and the whitest flour is far from being the best, the advertisements of the manufacturers notwithstanding. Our housewives do not know that many flours are not naturally white, but are made so, as is the case with many of our blondes. The difference is this only: brunettes are bleached into blondes by the aid of hydrogen peroxide, while the chemical used in bleaching flour is nitrogen peroxide. A bleached blonde is generally looked upon with suspicion, and so should a bleached flour, for the bleaching process generates toxic substances of the nature of diazo-compounds. It seems that the gluten of the flour is also acted upon chemically and in a manner deterimental to its digestion. We do not know whether or not flour bleached by nitrogen peroxide or any other process is considered adulterated or misbranded within the meaning of the Pure Food and Drugs Act; if it isn't, it ought to be. And in the meantime housewives should avoid flours that are "too" white.

A Great Medical Hero.—By the death of Dr. Alfred Kuehne, Vienna has lost a great medical hero. Some winters ago, during a heavy snowstorm, a southern railway express ran into a sleigh at a grade crossing. The locomotive was brought to a standstill after running over the sleigh driver, and crushing both his legs. Unconscious from the shock and loss of blood, the man lay under the engine, and it was impossible to extricate him. Dr. Kuehne crawled under the locomotive and by the flickering light of torches amputated both legs, bound up the great arteries, and sewed together the wound. To do this he lay three hours on his stomach in the snow, with the heated engine immediately over him.

When at last the mutilated man was released from his position he was taken to the general hospital. The famous Professor Billroth declared Kuehne's work as a great deed of heroism and surgery, and that his name would never be forgotten in the annals of Austrian medicine.—*Medical Brief.*

Institutional Work for Young Physicians.—Wm. P. Spratling of Baltimore, Md., describes the positions available for young physicians in connection with asylums and sanatoriums. The State institutions for the insane afford very desirable positions with a salary beginning with $600 and maintenance and increasing by length of service and examinations for promotion up to $4,500. Boards of Health and municipal departments also afford positions useful for those who do not wish to enter general practice at once, or need assistance through a few years. Sanatoria and public health resorts also employ resident physicians, who generally receive good salaries.—*Medical Record,* April 24, 1909.

What's the Use?—A doctor came up to a patient in an insane asylum, slapped him on the back, and said:

"Well, old man, you're all right. You can run along and write your folks that you'll be back home in two weeks as good as new."

The patient went off gaily to write his letter. He had it finished and sealed, but when he was licking the stamp it slipped through his fingers to the floor, lighted on the back of a cockroach that was passing, and stuck. The patient hadn't seen the cockroach—what he did see was his escaped postage stamp zig-zagging aimlessly across the floor to the baseboard, and following a crooked track up the wall and across the ceiling. In depressed silence he tore up the letter that he had written and dropped the pieces on the floor.

"Two weeks! Hell!" he said. "I won't be out of here in three years!"

Tuberculosis causes annually more than 150,000 deaths in the United States at the average age of thirty-five years, and if we assume that the net value of a human life is about $5,000, which is not high, the real loss to the nation resulting from this disease may be estimated at $240,000,000 per annum. This estimate does not take into account the social, mental and industrial value of at least 150,000 lives, which under different conditions might reasonably be expected to continue many years.

The Chicago health department laboratory has examined numerous samples of hamburger steak, and in practically every instance large

quantities of sulphites were found. These impart to the meat a rich red color. It is inferred that this chemical is added to preserve meats, that are already partially decomposed, for a few days longer, or until they can be sold to the consumer. Suits have been started against the dealers in all instances where excessive quantities of these preservatives were found.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

CANCER OF THE BREAST.

According to Dr. M. H. Richardson, Boston (*Journal A. M. A.*, May 15, 1909), the treatment of cancer of the breast still demands the most complete and early excision. His own methods have grown more thorough as his experience has enlarged. Cases must be judged at the time of the operation as favorable, unfavorable, or hopeless, and each of these headings permits greater accuracy of subdivision: very favorable, favorable, not positively favorable, doubtful and hopeless. A small tumor in the center of the breast, if there are one or two small lymph nodes involved, must be regarded as an early case and especially favorable. A small tumor with many and large axillary nodes, but easily movable and dissected makes a favorable case. A tumor, no matter what size, so long as it can be removed by a wide margin of safety, presents a favorable outlook. Infiltrations are unfavorable though not perhaps hopeless, and wide infiltrations, involvements of ribs and axillary vessels make the outlook practically without hope. The chief cause of delay in mammary cancer is in the patient's unwillingness to admit that serious trouble exists, and this is increased by the advertisement in the lay press of cancer cures, etc. A second cause is in the too favorable diagnosis of inexperienced physicans. Richardson goes at length into the diagnosis, emphasizing the symptoms that are most likely to lead to error. He gives little weight to pain, which justifies operation in total absence of other signs only for its own relief. But he gives it great weight when in the absence of other signs the breast is large and evidently has something in it. The influence of heredity on a doubtful diagnosis should be very great, and he would not exclude the possibility of a beginning cancer except after exploration. Tumors in both breasts do not exclude malignancy, and there is no safe rule in such cases except as treating them all alike as malignant until they have been proved benign. The examination of the axillæ gives important evidence, and in all cases the surgeon should examine for remote metastases, lest he subject his patient to a useless operation. Of all the metastases the most malignant are those of involvement of the cerebrospinal axis. Metastases in the abdomen, however, most lend their weight to a doubtful diagnosis, and a persistent cough without adequate signs in the lungs always strengthens the diagnosis. Richardson condemns the use of the hollow punch or knife section of doubtful tumors on account of the danger of autoinfection, and he has seen disastrous results from their use. There remains in many cases, however, the hope in human frailty; that the operation will reveal a better condition of things than we have anticipated, and he gives illustrations from his own experience. The prognosis depends on the operative findings and sometimes the surgeon's instinct makes him decide the outlook bad without being able easily to give a reason for it. Prognosis based on the statistics of many surgeons is, in his opinion, not of very much service. Cases that are recognized early enough to permit the widest removal, are widely different as regards prognosis from those in which thorough dissection is doubtful. We probably err most frequently in giving a too favorable prognosis, but sometimes we give one that is worse than the facts justify. He does not put implicit confidence in the three-year limit. Recurrence is influenced in favorable cases especially by the thoroughness of extirpation, and except for pain and annoying discharges the prognosis in advanced cases is such as to forbid operation. In considering the immediate prognosis he looks on the most extensive operation for breast cancer in patients with good vital organs as practically free from mortality. The great blot in the surgical treatment of this condition is unjustifiable delay. The burden of proof of the nonmalignancy of the disease is on those who advise palliative measures. The only exception to the rule of the universal exploration are those cases of multiple tumors of both breasts which are clearly retention cysts, and another exception is the breast tumor which appears after the removal of a benign growth or simple cyst, still another is the appearance in the other breast of a tumor like a benign one that has been removed from the first. But, barring contraindications, such as are found in the heart, lungs, kidneys and other organs, and in certain constitutional diseases, a better rule is to remove every tumor of whatever nature and at any age.

TOBACCO.

The *Journal A. M. A.*, May 8, says in its Department of Therapeutics that in this age of ever-increasing frequency of high blood pressure, arteriosclerosis, and cardiac weakness the action of tobacco is becoming more and more a matter of importance. While the number of non-smokers among men is increasing, it is also true that the number of men, young men, and even boys who smoke excessively is increasing. In studying the exact pharmacologic action of tobacco, while we must consider the laboratory findings, it becomes evident that these do not give the whole truth of the action of tobacco on those addicted to its over use. The only active constituent seems to be the alkaloid nicotin, which acts on the nervous and circulatory systems. In its concentrated forms it is one of the deadliest poisons; in less concentrated doses the symptoms are vomiting, nausea, and purging with profuse salivation and gradual failure of heart and respiration. When injected intravenously or subcutaneously it first causes rise in blood tension, probably due to irritant action on the walls of the blood vessels, soon followed by a lowering, due to disturbing action on the heart. This varies with the dosage and often from minute to minute. At first it causes inhibition by stimulation of the vagi, but if the dose is sufficient to paralyze the ganglia of these nerves the heart action becomes rapid and the heart muscle becomes depressed and later paralyzed. The bodily secretions are increased, especially the saliva and the sweat. Nicotin is a stimulant to peristalsis, intestinal and gastric, and the nausea and vomiting it causes are partly due to the action on the center in the medulla. Cushny says that nicotin first stimulates, later paralyzes all the sympathetic ganglia.

This being true, small doses taken constantly by young boys must profoundly influence growth and nutrition. The nervous twitching and fibrillary contractions of the muscles seem due to an action on the central nervous system. It does not seem to stimulate the higher centers of the brain except possibly during the act of smoking; its almost immediate action is as a narcotic. Repeated small doses cause contraction of the pupils, large doses cause dilatation. While nicotin is mostly excreted by the kidneys it is also largely excreted by the saliva and probably slightly also by the perspiration. As with other narcotic drugs a tolerance is quickly created and habit-forming is easy. A certain amount of nicotin is absorbed with every act of smoking, the amount depending on whether a pipe, cigar, or cigarette is smoked, and whether or not the smoke is inhaled. The smoking habit is probably due to its narcotic effects and the psychic effect of watching the smoke may perhaps have some effect. Smokers who inhale have the desire intensified by the irritation of the throat; these are mostly cigarette smokers. The intangible signs of tobacco poisoning are impaired growth and respiratory ability in boys, and in men a slowly developing arteriosclerosis. The tangible signs are nervous irritability, sleeplessness, cardiac pains, digestive disturbances, throat and larynx disturbances, etc. Throat irritations are usually easily cured by cessation of the habit. The dyspeptic signs are probably due to several factors—the impairment of the saliva, stomach irritability, and impaired circulation—and are treated successfully as a rule by stopping the habit and mild tonic treatment. The most frequent disturbance for which the patient comes to the physician is cardiac disturbance, and he has generally recognized the cause himself. The symptoms are generally controllable by stopping the tobacco, physiologic rest and small doses of digitalis and strophanthus. Other attending symptoms, such as tremor, exaggerated reflex, coldness of extremities, and excessive sweating, may call also for ordinary doses of strychnin. It has been much discussed whether the tobacco user gets cerebral stimulation or sedation from his smoking. It seems hardly likely that it produces stimulation. Its effect seems more to allay irritability and its general action must be said to be sedative and narcotic. This effect is produced not merely by the act of smoking but also by inhaling air filled with tobacco smoke, and a man who can safely smoke one or two cigars a day at his home may show symptoms of tobacco poisoning from the same amount inhaled in a smoking car. The question is here raised whether the withdrawal of tobacco is advisable in certain special conditions, say of severe strain, in a habitual smoker. Cases have been reported of actual need of tobacco in convalescents from sickness or operation. Such have been published by Dr. L. Bolton Bangs of New York in the *Medical Record* of March 14, 1908. The moral drawn from all the above is to urge the prohibition of the sale of cigarettes to young growing boys and for physicians to discountenance schools where their sale is permitted or their use allowed to continue, to teach older men the physiologic disabilities which the over-use of tobacco will produce, and to recognize the signs of its injurious action upon the system. How much any one can smoke is an entirely individual problem; one cigar may be as bad for one man as half a dozen for another. It is impossible to say how frequently deaths are caused by the over-use of tobacco. There is certainly a moral and mental deterioration too often produced, and sometimes even insanity. In breaking off the habit, the question is, shall it be sudden or gradual? This is best determined by the man himself. Sometimes bromides relieve the nervousness, sometimes strychnin is needed and laxatives are generally indicated. Plenty of fresh outdoor air will help the patient in ridding himself of the habit.

DIAGNOSIS AND SMALL-POX.

ARMSTRONG (*Archives of Diagnosis*, Apr.), concludes regarding the diagnosis of small-pox that

1. Except in rare instances and only in the presence of an epidemic is the positive diagnosis of small-pox justified before the appearance of the skin lesions.
2. The history of pre-eruptive illness serves only to confirm the diagnosis as made by the sense of sight and touch.
3. The small-pox papule has characteristics which make a positive diagnosis possible within a few hours of its appearance.
4. The papules appear first on the exposed parts, particularly the forehead and flexor surfaces of the wrists. They are under the epidermis, hard, round, flat-topped, umbilicated, rose-pink, and waxy in appearance. All these characteristics are usually present.
5. In general the entire course of evolution of the lesion from papule, vesicle, pustule, to scab formation is regular and characteristic.
6. The lesions vary in number. They may be few, or so numerous as to become confluent, but the individual characters of the lesion are present in all cases.

NEUROLOGICAL SYPHILIS.

PRICHARD (*New England Medical Monthly*, April), in an article on "Neurological Syphilis," says: Given a patient between the ages of 25 and 45, affected with any form of intracranial paralysis or cerebral disturbance, which was preceded by headaches of nocturnal onset or exacerbation, associated with vertigo and insomnia, the insomnia occurring during the first half of the night, the paralysis developing during sleep, both headache and insomnia disappearing upon the onset of the paralysis, the cause is syphilis.

EPILEPSY AND BROMIDES.

WM. (*Am. Medicine*, April), in a discussion of "Epilepsy and the Bromides" considers the analysis of 100 cases and comes to the following conclusions:

(1) The value of the bromides in epilepsy has been greatly overrated.

2. The dosage commonly employed is not only excessive, but deleterious when its administration is prolonged.
3. Small doses produce as good results as larger ones.
4. Half of our favorable cases responded to treatment without any bromide being prescribed.
5. When employed without ordering a salt free diet the use of bromides is almost valueless.
6. Any decided amount of Na Cl in the blood acts as an irritant to the cerebrum and increases the frequency and severity of the attacks.
7. While we do not know why the exclusion of salt from our patient's diet is so beneficial in the treatment of epilepsy we do know that equally brilliant results are obtained by its prohibition in chorea.
8. Less than 10% of all cases of epilepsy are curable and only 50% of carefully selected cases were benefited by prolonged treatment.

9. The writer does not presume to explain the brilliant results obtained in cases 1 and 2 and in many others that responded similarly to treatment.

NEW DIAGNOSTIC METHODS IN APPENDICITIS.

Rovsing of Copenhagen has employed for the past three years an original and, as it appears, a very valuable method of examination in cases suspected of appendicitis or typhlitis. With his right hand he presses his left one, palm downwards, against the integument of the left iliaç fossa and lets it glide upwards along the descending colon until it reaches the vicinity of the left colic flexure. By this procedure the gases contained in the large intestine are made to exert a greater pressure against the intestinal walls than before, with the result of eliciting severe darting pains in the region of McBurney's point. In each of his first two cases in which he tried his new method of examination there was strong suspicion of the affection being a perityphlitis judging by the usual signs. The one patient, however, did not experience the least pain in spite of rather vigorous massage of the descending colon, while the other patient felt at once severe pain, referred to McBurney's point, after a mere compression of the descending colon. The subsequent operations explained the difference. The last mentioned patient turned out to be suffering from appendicular peritonitis, whereas the first patient on being explored by laparotomy did not present any alteration of the vermiform appendix or intestine, but a retroperitoneal swelling, which lifted up the ascending colon and which a lumbar incision proved to be due to a perirenal phlegmon.

Judging from his experience in more than two patients, Rovsing considers his method a trustworthy, sensitive, and valuable diagnostic help. Its importance lies in a twofold direction. First, it will aid in the correct diagnosis in the many doubtful cases in which the nature of a painful swelling in the right iliac fossa cannot with any certainty be made out, such as those in which the diagnosis of a renal affection, a ureteric or hepatic lithiasis, or a salpingitis appears just as probable as that of an appendicitis. For only in those cases where the pain is caused by an affection of the appendix or cecum will it be elicited by pressure against the healthy descending colon. The trustworthiness of the symptom is well borne out by the following observation. In several cases of gangrenous appendicitis where the pain was referred only to the epigastric area and had therefore led to the suspicion of a gastric affection (perforating ulcer of the stomach), Professor Rovsing's method gave at once the correct diagnosis, pressure against the healthy descending colon immediately eliciting the typical pain over McBurney's point. The second field for application of the method is to be found in the acute cases where direct palpation is dangerous, painful, or impossible on account of defensive muscular rigidity and therefore must be omitted, whilst palpation of the healthy descending colon does not present any difficulty.—The London Medical Lancet.—Charlotte Med. Journal.

TREATMENT OF BASEDOW'S DISEASE.

It is very difficult to draw the line between true Basedow's disease and hyperthyroidism with cardiac palpitation and nervousness, but it is probable that both are manifestations of the same condition. The number of drugs recommended is legion, which is sufficient proof that no specific has yet been discovered. The best results are undoubtedly obtained with the antithyroidin of Moebius. Rodagen, the milk of thyroidectomized goats, is less reliable in its action. Rest, diet, electricity, and massage do a certain amount of good, but the Röntgen rays have proved disappointing. The most rapid cure will follow a hemiextirpation of the gland, according to Krecke. The recent statistics have been so favorable as to warrant surgical intervention also in the early and mild cases. Thus, of 17 cases operated upon by this author, only 1 died. After the operation, there is generally a moderate rise of temperature, with an increased pulse-rate, sometimes up to 180-200 per minute. All the patients operated upon have been heard from two months to three years after the operation, and the reports have been excellent, except that the exophthalmos generally persisted to some extent. Before operating, it is important to examine the patient thoroughly. An operation is contraindicated where evidences of a persistent thymus gland are found, by percussion, palpation, Röntgen examination, or inspection of the throat. It is better to narcotize the patients with ether, and not to use local anesthesia.—Muench med. Woch., 1909, No. 1.—*Merck's Archives.*

ECZEMA IN INFANTS.

Mendelsson (*Munch. Med. Woch.*, October 20, 1908), says that, according to Finkelstein, the eczema of infants is due to disturbed assimilation of the salts in milk; its treatment therefore is not local, but must consist of dietetic measures. The best diet is poor in salt but rich in proteid and fat, and is prepared by removing the salts of milk by washing the casein in water and then mixing it with diluted whey. Mendelsson obtained very good results with Finkelstein's diet, the eczematous conditions disappearing much more quickly and surely than with the older local treatment. The loss of weight noted on this diet should not stop its use, as it is caused by the rapid loss of water with the removal of salts in the tissues. The diet, however, should be tried only in such children who can bear fat well; such infants are usually large for their age, have a pasty skin and are prone to manifest not only eczema but other phenomena of "exudative diathesis." They stand the withdrawal of salt very well if it is not continued too long after the curative effect upon the eczema has been noted. —*Medical Record.*

URINARY DIAGNOSIS.

Dawbarn (*Archives of Diagnosis*, April, 1909), calls attention to a diagnostic sign sometimes found in the urine upon contact with cold nitric acid. With or without the presence of the white line of coagulated albumin, there is to be seen, and far from rarely, a red line of varying width. It is never as sharply defined at its points of contact with the acid below, and the urine above, as is the line of albumin, but is, however, to be recognized with the utmost ease. When albumin is also present the red line in question will be found just above the albumin.

Basing his views upon his own clinical experience alone, the writer would go so far as to say, that when the red line is found of unusual thickness and density, he would consider the patient from whom that specimen was obtained as being more in jeopardy—as being a more unsafe risk for any life insurance company to insure—than if instead of the thick red line a very narrow white line of coagulated albumin had been obtained.

It all depends upon the liver. As we know, one of the numerous functions of that wonderful organ is to destroy in a great measure the venomous character of certain kinds of poisons that are carried to it in the blood-stream. It not only so changes the composition of the food brought to it from the bowel-lacteals after digestion as to make it fitting to promote the constructive metabolism or metamorphosis of tissue, but conversely, the liver also exercises its well-known power which governs destructive metabolism and metamorphosis of tissue. When from the various pockets along the colon stagnant feces slowly but persistently seep into the blood, so long as the liver continues vigorously to exercise its functions of the latter nature, as just mentioned, either the red line will not appear in the urine, or else if the amount of poisons is considerable, or the liver's work done but indifferently, it will appear, but will not show up as a ring either very deep or very dense. And this condition of things may keep up—this steady poisoning and as steady destruction of that poison or else minimizing of its injurious effects may continue—in some cases even for many years. This wonderful protection will end, however, just as soon as the liver no longer chooses, or is no longer able, to tolerate this unjust burden thrust upon it. But the liver itself, like every other organ in these cases, is fed with a mixture of blood and feces. In time, early or late, according to the relative importance of the several factors, the liver will strike work.

When at length the liver is no longer able to carry its great burden as before, the patient succumbs with great speed.

It should not be assumed that constipation alone is the source of the red line sign. To specify just one excellent instance in point, I have quite regularly found it in the urine of women having either a subacute or chronic pelvic peritonitis of pyo-salpinx and with more or less of excrementitious material (mainly pus) steadily poisoning their blood. The cause is so similar to the main one (constipation), as not to invite surprise at finding the same red line in such instances.

MUNCTIVE TUBERCULIN REACTION.

Trimble (*New York Medical Journal*, May 22), writing on the "Diagnostic Value of the Inunction Tuberculin Reaction in Cutaneous Tuberculosis," describes the method which consists in rubbing into the unbroken skin a tuberculin ointment made of equal parts of Koch's Old Tuberculin and Anhydrous Lanolin. The reaction appears in three degrees; mild,—after twenty-four hours to forty-eight hours, there appears at the point of application a number, sometimes ten or twelve, of dusty red papules varying in size from a pin to a small match head, the more diminutive predominating; medium—this action is practically the same as the first with the exception that about twice the number of papules are observed, and they are probably somewhat larger than in the mild reaction. The area of erythema is also more distinct. Strong—this is an exaggeration of the second with a strong erythema, a great number of papules of a larger variety, and the symptom of itching is rather annoying. He concludes regarding the reaction:

1. The test is not absolutely confirmatory but is probably just as much so as the Calmette.
2. According to the literature, the inunction test is even more conclusive than the von Pirquet since it gives a less number of positive reactions in apparently healthy people.
3. A positive reaction is fairly convincing that tuberculosis exists in some form; and if other foci can be eliminated by clinical examination, the skin lesion is probably responsible.
4. A negative reaction does not preclude tuberculosis as some advanced cases and also a few with healed lesions fail to react: it is, however, of value in cases of doubtful diagnosis where other evidence of tuberculosis can be excluded; in such a contingency, it would be fairly reliable evidence, that the skin lesion was not of a tuberculous nature.
5. It is perfectly harmless which can not be asserted of the Calmette test.
6. In using the method, it is not necessary to break the skin, thereby opening the port of entry to possible secondary infection.
7. It will not be commonly employed, since it is fairly easy, as a rule, to make the diagnosis of cutaneous tuberculosis from the clinical examination alone.
8. Although this test is not absolutely reliable, it is an addition to our diagnostic armamentarium from the position that every little helps.

THE APPENDIX.

Appendix, worm-like thing,
To thee I sadly sing;
My woe is great.
Thee I must bid good-bye
Or else I'll surely die,
So say grave surgeons *zwei*,
Quite up to date.

They tell me how 'tis done;
Gad! prove it's merely fun,
Yea, nothing more.
The skin is giv'n a slash,
Deft hands thru muscles dash,
Thy neck's slit in a flash—
All's safely o'er.

Worm, true thou hast been,
Heldst fast thru thick and thin,
In weal and woe;
"Blind process" tho thou art,
Deemed worthless from the start,
I love thy every part—
Thou'rt not a foe.

Thou'st served me night and day
In modest, humble way,
Thru youth and age;
Hence I would ingrate be
To e'er go back on thee;
Not fit my God to see,
With such a page.

So then I'll here decide,
Thou shalt with me abide
For e'er and aye,
E'en tho they claim with heat
That thou'rt corruption's seat;
That's defeat's plaintive bleat,
It's dying cry.

Pittsburg. Theodore W. Nevin

—Medical World.

Who is the keeper of your reputation?

This is a startling question when its full significance is grasped.

The answer lies in the appended statement, made in the course of a short lecture before a body of medical practitioners:

The reputation of the physician (and, in equal measure, his income) is in the keeping of his pharmaceutical purveyor. Diagnostic skill avails nothing unless it be supported by trustworthy remedial agents.

The man who writes the prescription seldom sees the medicine dispensed. And of physicians who do their own dispensing, how many have the time, the training, the equipment, for assaying and testing their medicaments? **The practitioner must rely upon the skill and honesty of the manufacturing pharmacist.**

It behooves the physician, then, to consider well the source of his supplies. Let him select a house of proved reliability—a house with a reputation to sustain—a house backed by a record of performance—and let him specify the products of that house.

Is ours such a house? Let us see.

Since the establishment of our business (in 1866) we have discovered and introduced to the medical profession a long line of valuable drugs that are recognized as standard medicinal agents in every civilized country. We isolated the active principle of the suprarenal gland, giving adrenalin to the world. We were among the earliest producers of serums and vaccines, as we are now the largest. **We were the pioneers in drug standardization by chemical assay,** putting forth the first standardized fluid extract in 1879. **We were the first to introduce physiologically tested galenicals. Today our entire line of pharmaceutical and biological preparations (fluid extracts, tinctures, elixirs, solid and powdered extracts, pills, tablets, serums, vaccines) is accurately standardized.**

• • •

SPECIFY OUR PRODUCTS. Then you will know—mark you, **KNOW**—that the agents which you are prescribing, administering or dispensing are pure, active and of uniform strength.

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THERAPEUTIC NOTES.

It is a well known fact that the Battle Creek Sanitarium has led in the development of the Mechanical and Electrical Therapeutic Appliances. For twenty-five or thirty years it has been experimenting, developing and improving such apparatus. Every year sees some marked improvements in the make up of the many improved appliances developed at this great Institution.

The last style of Bath Cabinet, with its Electrical Foot Warmer, its flat top and latest system of wiring is the very acme of Bath Cabinet making.

Dr. Kellogg's Sinusoidal Apparatus is recognized everywhere as being the most effective Appliance for using the electric current for Therapeutic purposes. The latest of these machines is a great improvement over any other of its kind on the market.

The Centrifugal Vibrator was developed at the Battle Creek Sanitarium for the purpose of giving Mechanical Massage. It differs from every other Appliance of this sort in having two distinct motions and will appeal to the practitioner who wishes an instrument that will do heavy work. The Modern Medicine Co. are makers of all forms of Vibrating Apparatus including the Vibrating Chair and Vibrating Bars. This firm also manufactures the well known Thermaphore Pads and Blankets, one of the most convenient apparatus for the application of heat to the human body that has been devised. This Company is thoroughly up-to-date and is constantly improving the forms of their appliances and bringing out new apparatus. It has in preparation a handsome illustrated catalogue which it will be pleased to send to those interested in its Apparatus.

TREATMENT OF ACNE.

As acne is a chronic disease, and as cod liver oil in the shape of Cord. Ext. Ol. Morrhuae Comp. (Hagee) exerts its best influence in chronic diseases of the skin, by its alterative and stimulating effects on the functional activity of organs, properly administered, it is one of the most reliable remedies in the internal treatment of acne. In anemic cases, it exerts its greatest power.—*American Journal of Dermatology.*

SUMMER-TIME IS SPRAIN-TIME.

Some wit has said that "Summer-time is sprain-time." Golf, tennis, baseball and the other outdoor sports inaugurate a season of sprains and wrenches, and ankles, knees, wrists, elbows, shoulders, and backs pay the penalty of a missed drive, an overhand smash or a slide to base. The resultant conditions, the stretching or tearing of ligaments, contusion of the synovial membrane and damage to vessels and nerves, are best remedied by the use of Antiphlogistine, which markedly aids in the reconstruction of the injured part.

By removing the products of inflammation, through the absorption of the liquid exudate from the swollen tissues, and by permitting free circulation of blood through the seat of the injury, Antiphlogistine acts as Nature's first assistant. The affected cells are stimulated and toned up through endosmosis, and the process of repair is greatly hastened.

Antiphlogistine should always be applied directly to the affected area as hot as can be comfortably borne, and covered with absorbent cotton and a bandage.

ANTISEPTIC URINE inhibits the development of bacteria and favors the restoration of healthy conditions. Cystogen-lithia, each effervescent tablet containing cystogen 3 grains and lithium tartrate 3 grains, will cause the urine to become a dilute solution of formaldehyde if administered in the dose of one to two tablets four times daily. Thus rendered antiseptic, the urine will guard against involvement of the urinary tract during convalescence from typhoid, scarlet fever, and other infectious or eruptive fevers.

NEW REMEDIES.

Sodoxylin.—Sodoxylin is one of the latest products of the Abbott Laboratories. It is a combination of remedies which opens up an entirely new field of therapeutic possibilities in medicine. It is an eliminant, antacid and intestinal antiseptic of merit, neutralizing hyperacid conditions of the system, modifying abnormal findings in the intestinal canal, serving as an efficient remedy to neutralize the toxin substances found in the system and to prevent their further production. Extensive literature regarding the remedy itself and the conditions in which it is of most value will be sent by the Abbott Alkaloidal Company, on request to Chicago.

Galactenzyme.—A "sour-milk" ferment triturate of active lactic bacilli, a modified culture of the Bacillus of Massol of which so much has been written in the past few months. Galactenzyme is a very efficient product in the treatment of intestinal putrefaction and autointoxication. It is supplied in bottles of one hundred tablets nicely flavored with chocolate and vanilla, or plain as may be desired at $.35 per bottle ($4.00 per dozen) very much less than the usual exorbitant prices charged by others. In addition to this a special tablet of the same culture is supplied for the home production of Bulgarian "sour-milk" ($.35 per package). Boullion cultures also are made to order for use as colonic injections, and for nose, throat and urethral work. Samples of the regular, edible tablets (mixed both plain and flavored in same package) will be sent by the Abbott Alkaloidal Company, on request to Chicago.

POST HEMORRHAGIC ANEMIA.

The anemia which follows the hemorrhages of trauma, gastric or intestinal ulcers, severe epistaxis, child birth, profuse menstruation or hemorrhoids presents a clinical picture that is so well-known that it requires no description.

Examination of the blood immediately after a severe hemorrhage usually shows no apparent change in its number of corpuscles, for the portion lost withdrew the blood as a whole, and the portion remaining in the body, while decreased in volume, will be found to contain a normal ratio of the fluid and cells. Shortly after a hemorrhage, however, the tissues of the body give up large quantities of fluid to restore the necessary volume of the blood and a condition of true hydremia ensues. Examination of the blood three or four hours after a severe hemorrhage, therefore, shows a very marked oligocythemia. Reconstruction must now take place and the response to the bodily demand is sometimes remarkably prompt, but in most instances it is a hard up-hill fight. This is to be expected, for the disproportion between the cells and the fluid elements of the blood, and the essential depression of all vital functions, makes recuperation a difficult process at best.

Much can be done, however, to assist the body in its effort to restore normal conditions. The first and most essential requirement is absolute rest in a prone position. In some instances, it may be necessary for a few days to have the couch or bed tilted so that the patient's head shall be lower than the feet. Sudden movements or a sudden rising to an upright posture must be strictly interdicted as these are always liable to produce a fatal syncope. Following severe hemorrhage, the blood pressure is always lowered, and even if a certain degree of tension is apparently restored, it is very unstable, and may be lost instantly with all of the resulting dangers on the heart and central nervous system.

Another precaution to be taken is to frequently change the patient's posture from one side to the other. The hydremic state of the blood, and the loss of blood tension predisposes to gravitation œdema in the lungs and other organs, and the simple procedure of changing the patient's position often avoids annoying and serious complications.

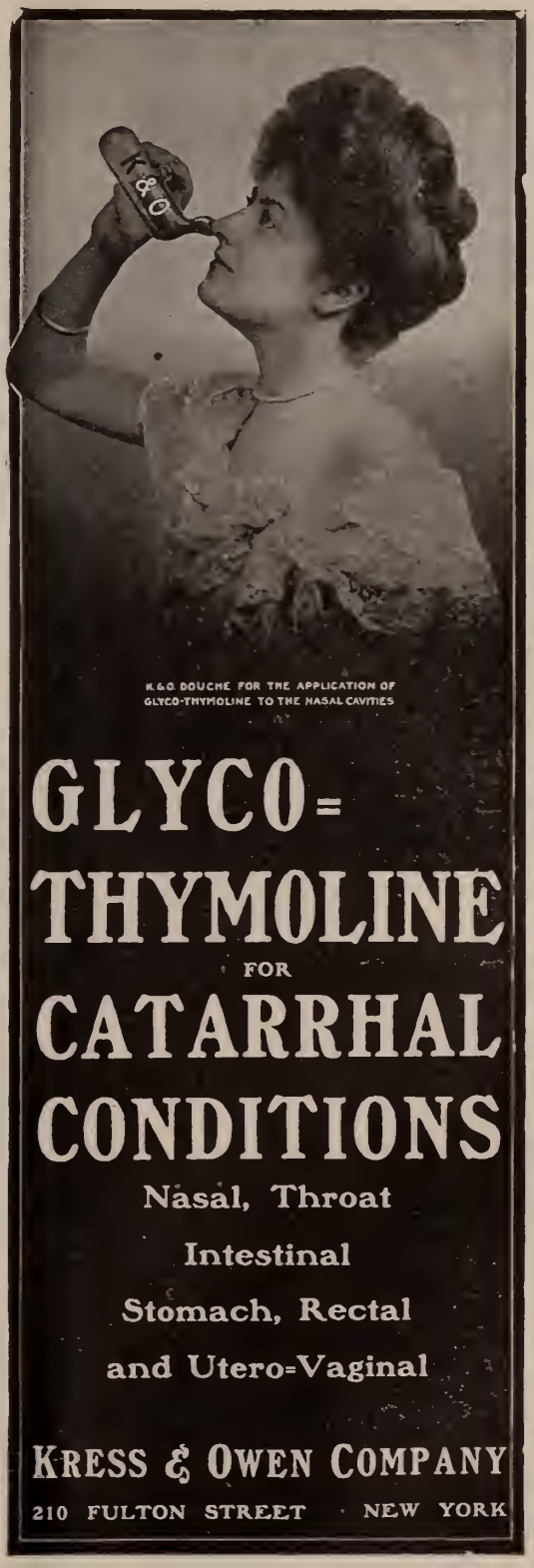
Considerable quantities of water are always necessary after hemorrhage, but it should never be given in large amounts at any one time. Two or three tablespoonsful at a time by the mouth every few minutes is much more beneficial than to allow a patient to drink to satiation. Excessive thirst is always soon controlled by small enemas (one pint) of saline solution, as warm as can be borne, repeated every three or four hours. These also serve admirably to very materially raise arterial tension. It is no uncommon thing to observe complete anuria for even twenty-four hours after severe hemorrhages, but the warm saline enemas soon correct this condition.

Feeding is one of the most important details in post-hemorrhagic treatment. Liquid food should be used in preference to solids for obvious reasons, and may consist of milk, beef extracts, white of eggs, etc. Small quantities should be given at short intervals, as it must be remembered that the digestive function is always more or less depressed and can only do a portion of its usual work. A good reliable hematic is early necessary, one that can materially hasten hematosis without endangering the digestive and assimilative functions in any way, shape, or fashion. Pepto-Mangan (Gude) is one of the most dependable remedies of this class and its hematopoietic properties are well-known. Under its use the cellular elements of the blood are rapidly increased, and the whole physical condition is greatly improved. The various organs resume their functions and the distressing and dangerous effects of hemorrhage are safely and properly overcome.

WHEN MOMENTS ARE GOLDEN.

There are times in the experience of every practitioner when moments are precious—emergencies when there is not an instant to lose. A patient, let us say, is writhing in pain. To alleviate his suffering, the physician must act promptly and with precision. Dependence, in such a crisis, is usually upon a single little hypodermatic tablet. And that tablet—will it justify the faith? Is it *medicinally active?* Is it *of full strength?* Is it *soluble* These become living questions.

Too much stress cannot be laid upon the importance of solubility. And let it be remembered that flying to pieces in water is not the requirement. Many tablets do that—fine, undissolved particles settling to the bottom. This is mere disintegration, not solution; and such a tablet cannot be depended upon to yield the results that the practitioner desires and expects.



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Obviously, the physician should exercise care in choosing his hypodermatic tablets. Let his source of supplies be a house with a reputation for making tablets that are stable, active and of uniform strength; tablets that *dissolve promptly and completely.* Let him search out a brand of hypodermatic tablets that meet all of the requirements above set forth, and let him *specify that brand!*

The largest manufacturers of hypodermatic tablets in the world are Parke, Davis & Co. The hypodermatic tablets of this house are true to label. They are soluble. The materials entering into them are rigidly tested for purity and activity. Parke, Davis & Co.'s hypodermatic tablets are thoroughly trustworthy. Physicians will make no mistake when they specify them on their orders.

A TRUSTWORTHY REMEDY.

Few remedies so promptly justify the confidence placed in them as Gray's Glycerine Tonic Comp. It is not unusual after even a few days' administration to note a decided improvement in the appetite, digestion, assimilation and general physical condition.

GASTRIC INSUFFICIENCY.

Weakness of the gastric muscles is responsible for a considerable proportion of all cases of indigestion. Immotility of the muscular coat necessarily means diminished secretion, and this added to mechanical insufficiency inevitably invites fermentation and putrefaction.

It is then only a step to graver catarrhal disease with actual pathological changes which tend to progress and offer increased obstacles to successful treatment. In Gray's Glycerine Tonic Comp., however, the profession have a remedy that possesses extraordinary stimulating influence on the involuntary muscles of the body, and herein lies its notable tonic power. As the muscle tissue of the whole alimentary canal approaches a condition of normal tonicity glandular secretions are increased and gradually but surely fermentation and its train of toxic tendencies are controlled and overcome.

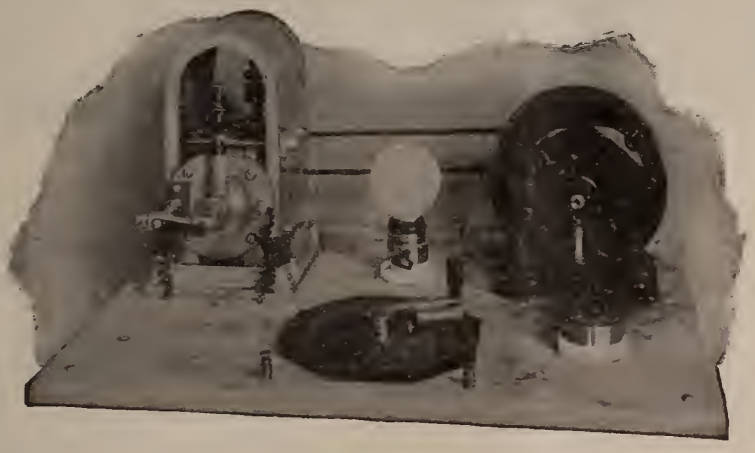
Diagnostic Accuracy is a prime factor in the practice of medicine and quite as important is Therapeutic Accuracy. In the treatment of many diseases of women, such as Dysmenorrhea, Amenorrhea, Menorrhagia, Metrorrhagia, etc., and where Hayden's Viburnum Compound has been prescribed, uniformly good results invariably follow its administration; but if simply Viburnum Compound is written without specifying "H. V. C.", any one of the many substitutes or imitations of this well known product may be put up by the druggist and decidedly indifferent and unsatisfactory results are the consequence.

For definite results, definitely specify Hayden's Viburnum Compound.

Canada is raising the medical standard. The five-year course of study has been adopted in Quebec Province. Henceforth in order to gain entrance to a university in that domain the applicant must possess a degree in arts from a Canadian or British university, or exhibit a certificate of qualification from the medical board of the Province. The extra year will be devoted to clinical study and such laboratory and other work as appertains to this branch. Degrees obtained from McGill and Laval Universities will entitle the holders to practice.

A bill before the Indiana legislature aims to regulate the vending of medicines by requiring persons selling the same from a wagon to pay a license fee of $100 a month. The fee would be virtually prohibitive of the practice. It is to be hoped it will pass.

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IMPROVED SINUSOIDAL APPARATUS

Superior to all other electrical apparatus for office treatment and for electro-hydric baths. The sinusoidal current has proved more effective than any other electrical current in the treatment of disease, particularly because of its unique massage effect. Used for many years at the Battle Creek Sanitarium and many other medical institutions.

Price of complete apparatus (either A. C. or D. C. motor) **$80**; with galvanic attachment, **$120.**

The Centrifugal Vibrator

The most effective, convenient and satisfactory vibrator made. Produces three distinct types of vibrations without readjustment. Produces larger and more vigorous results than any other vibrator. Made of aluminum, portable, light, weighs about 3½ pounds. Ready for instant use.

PRICE, **$30.**

With trunk girdle attachment, **$32.**

With socket regulator, **$32.50.**





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An improved heating pad, for bed warming, fomentations, etc. Covered with mackintosh or eider-down, as desired. Two sizes, 17 x 24 in., 12 x 30 in. Price, **$6**; with regulating switch, securing three degrees of heat, **$8.**

Also Thermophore Blankets, 6 x 6 ft., for heating packs, outdoor sleeping, etc. Price, with regulating switch, **$20.**

All of these appliances prepared complete for instant use, requiring only attachment to electric lamp socket. Sent promptly on receipt of price, express or freight prepaid, and working satisfaction guaranteed.

Write for illustrated Catalogue K, describing these and other appliances.

MODERN MEDICINE CO.

Battle Creek, - - Michigan

By a vote of 140 to 2, the legislature of Illinois on March 10 passed the Glackin bill, which authorizes cities and villages to levy a special tax of one mill to construct and maintain public tuberculosis sanatoria. The prime object of this bill is to secure for Chicago a sanatorium for tuberculosis, as the mill tax will amount to about $160,000 a year. The question of the issue of bonds will be submitted to voters at the coming election, and will undoubtedly meet with approval, and result in this good work being undertaken.

We learn of a man out West who has willed all his estate to his dog. At the death of the dog the property is to revert to the man's legal heirs. Dogs generally live from twelve to fourteen years; this one will die in about a week.

The authorities in Russia have organized a censorship for medical advertising, including both proprietaries, apparatus, drugs, hygienic and cosmetic remedies and the professional cards of physicians, dentists, midwives, masseurs and druggists, health resorts and mineral waters.

To Remove Silver Nitrate Stains.—According to the *Lancet-Clinic,* silver nitrate stains on the skin may be whitened and their removal much expedited by the application of a solution made according to the following formula:

℞ Mercury bichloride,
Ammonium chloride, grm. 0.65.
Aq., c. c., 6.00.

Apply with friction.—*The Medical Council.*

The President has appointed Colonel George H. Torney surgeon-general of the United States Army, vice Surgeon-General O'Reilly, retired. During the Spanish-American war Colonel Torney was in charge of the hospital ship "Relief."

A Children's Hospital in Augusta, Ga., is to be erected by Mrs. G. F. W. Duff, of New York, in memory of her husband, who died in Augusta recently. The building will cost approximately $20,000.

Practical Examinations for the Medical License.—An important step recently taken that will have a tendency to raise the standards of medical education is the inauguration of the practical examination by two state examining boards, those of Ohio and Massachusetts. During the written examination, in June, in Ohio, each of the one hundred and sixty-one applicants was called on, in the presence of the entire class, to make a urinalysis and to identify under the microscope histologic, pathologic and bacterial specimens. It required about 50 minutes for each applicant to complete the practical test; he was then given an extension of time to finish his written examination. The results were reported as highly satisfactory. The Massachusetts board required each applicant to give a demonstration on the obstetric manikin and to make a urinalysis, as well as to identify specimens under the microscope. It was stated that many who took these practical tests seemed totally unfamiliar with the microscope. The board proposes in its future examinations to require also the use of the stethoscope as well as demonstrations on the cadaver and the application of bandages and surgical dressings. It has recently been announced that within the next few months the boards of Minnesota and Indiana will require, in addition to the written examination, practical tests in histology, pathology, bacteriology and urinalysis. These practical tests have long been required in the medical license examinations in other countries. Their requirement by state licensing boards in this country is, indeed, most important and timely. They enable the boards readily to differentiate the applicant who has undergone merely a cramming process by "quiz-compend" methods from one who had training in practical laboratory and clinical work. Since the necessary apparatus and material for making these tests are so easily obtained, it is hoped that many state boards will soon require them as a part of the license examination.—*Jour. A. M. A.,* April 24, 1909.



At Last—A Perfect Air Compressor

Doctor:—This Electric Air Pump is just what you are looking for to give you that steady, continuous air pressure without bother. Powerful, compact, quiet, double compression, sanitary air filter, bronze bearings, gravity valves, with or without motor. Get our prices,— but in any event, Get the Pump. Made by us. Ask for special pump leaflet, also Catalog of Globe Nebulizers and Compress Air Vibrators. Free.

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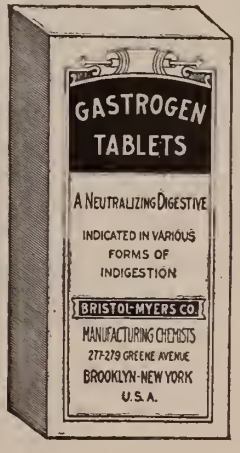
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The new building for this department of the University contains large laboratories for the teaching of Anatomy, Physiology, Chemistry, Physiological Chemistry, Histology, Bacteriology Pathology and Pharmacology. The lecture halls and recitation rooms are sufficient in number, and ample in size. Every effort has been made to have all rooms well lighted and ventilated.

The University of Vermont College of Medicine, can now offer to students opportunities for the study of medicine that are second to few institutions. Situated in a beautiful town free from many of the distracting influences of a large city and furnishing the advantages of a metropolitan school at a nominal expense, the College of Medicine is prepared to give students more for their money than most schools of medicine.

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by Drs. GOLDTHWAIT, PAINTER and OSGOOD

"It is to those practitioners of medicine, therefore, to whom sufferers from joint disease make their first appeal, that these Studies are offered."—*The Preface.*

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Bee Stings for Rheumatism.—E. T. Burton (*Brit. Med. Jour.*) was suddenly attacked with acute arthritis of the right hip, as suddenly succeeded by sciatica of the same side. After several weeks of ineffective treatment the "bee sting cure" was begun. Seven of these insects were applied in the course of the sciatic nerve and round the hip joint. When the patient awoke in the morning he was able not only to turn in bed but also to get out without hauling himself up in agony by the bed post; and he walked across the floor without limp or pain for the first time in three months. Returning to bed at once he had another half dozen bees applied, dressing at noon for dinner; that night another half dozen, and two days after a repetition of the process. He thereupon walked well, and even ran some fifty yards without pain. Some ten days after he was absolutely free of the slightest twinge. Burton, who is 67 years of age, had been a rheumatic subject for twenty-five years.—*The Medical Times.*

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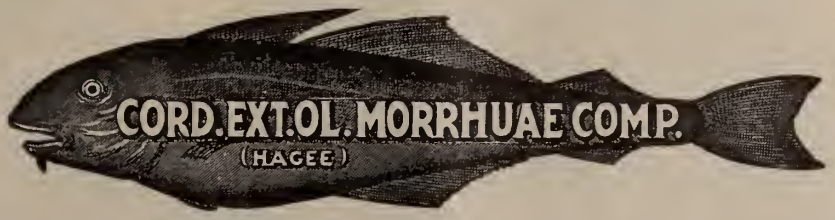
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VOL. XV. JULY 15, 1909. NUMBER 7.

ORIGINAL ARTICLES.

THE DIFFERENTIAL DIAGNOSIS OF SOME OF THE MORE COMMON PATHOLOGICAL CONDITIONS IN THE RIGHT SIDE OF THE ABDOMEN.*

BY

H. C. TINKHAM.

Diseases of the gall bladder, of the right kidney and of the appendix, some conditions of the stomach and duodenum, together with diseases of the right uterine adnexa in the female, form a group of intra-abdominal diseases that have many symptoms in common, and although in the typical and uncomplicated cases of disease of any of these organs the diagnosis is comparatively easy, yet there are a sufficient number of cases where the symptoms are complex and the diagnosis is consequently difficult or even impossible to perhaps justify a discussion of the differential diagnosis of these conditions.

I have nothing new to offer in the way of symptomatology or method of examination of these cases and shall attempt nothing more than an analysis of the symptoms of each of these conditions, with the hope that by discussing them together it may help in clearing up the diagnosis of some obscure cases.

Practically all the diseases of these organs which I shall discuss can be divided into two classes for the purpose of diagnosis:

First, acute conditions.

Second, the less acute, or chronic, conditions which present symptoms less characteristic.

I shall confine myself, at first, to the discussion of the symptomatology of the more common acute diseases of these organs. The disease of the gall bladder which we shall discuss is cholecystitis with or without cholelithiasis. Cholecystitis may exist without the formation of calculi although an infected gall bladder is probably the most potent cause of the formation of gall stones, and cholelithiasis may exist for a long time without apparent inflammation of the gall bladder, many cases of gall stones having been found upon opening the abdomen for other conditions, or at autopsies, which had never caused any apparent inconvenience to the patients.

These two conditons present practically the same train of symptoms, viz.: pain, tenderness, muscular rigidity, nausea and vomiting. Jaundice may occur or be absent in either condition. There is usually some increase in both temperature and pulse rate in each. Leucocytosis may be present or absent in either case. There may be distention of the gall bladder forming a distinct tumor in both these conditions or it may not be distended in either. The pain is excruciating and more or less paroxysmal and is more intense over the gall bladder, but is severe over the upper half of the right side of the abdomen, perhaps more pronounced between the gall bladder and umbilicus. In a majority of cases the pain is also referred to the right shoulder blade. There is the most extreme tenderness over the region of the gall bladder even the slightest palpation causing great pain. Muscular rigidity is marked in the upper part of the right side of the abdomen and sometimes extends over the entire right side. Vomiting is an early symptom and may consist of stomach contents with mucus or may contain bile. Jaundice may or may not be present. If the common bile duct becomes occluded either from the presence of a stone or as a result of a cholangitis there will be jaundice. If, however, this duct remains pervious there will not be jaundice although the gall bladder may be filled with stones or the cystic duct occluded by a stone or inflammatory processes.

The finding of calculi in the stools is positive evidence of cholelithiasis, but the failure to find them does not necessarily prove there are no calculi, for a stone which is too large to pass through the biliary ducts might become engaged in the cystic duct giving rise to all the symptoms, and then be dislodged falling back into the gall bladder sufficiently to relieve the symptoms.

The increase in temperature and pulse is not at all significant either of gall bladder disease

*Read before the N. H. Surgical Club, Manchester, N. H.

or the gravity of the case, as the nervous temperament of the patient probably influences both these symptoms markedly. A mild leucocytosis is usually present (1,200). It is not present in cholelithiasis unless cholecystitis is present.

A large majority of all cases of renal colic are due to renal calculi, although it may be well to mention other conditions which cause severe kidney pain and simulate true renal colic. Dietl's Crisis, or kinking of the ureter in movable kidney; plugging the ureter with any substance as pus, in pyonephrosis; blood or tumor masses in neoplasms of the kidney; or blood and caseous particles in tuberculosis of the kidney cause the same train of symptoms as the passage of a renal calculus. Acute congestions of the kidney such as occur in tuberculosis, acute exacerbations of chronic nephritis, pyelitis and nephralgia, also diseases of the ureters or pressure on the ureters from large abdominal tumors produce acute pain which simulates renal colic. The acute pain from all these causes is so near alike that it will serve the purpose of this paper to discuss them under one head. The pain of renal colic is very intense and paroxysmal, so intense as to cause symptoms of collapse, faintness, feeble rapid pulse, cold clammy skin, etc. When the right kidney is affected the pain is located in the right side of the abdomen and in the right lumbar region, the pain is reflected also along the course of the ureter to the groin, external genitals and inner side of the thigh. Tenderness is marked and palpation causes increased pain. Muscular rigidity is not marked or may be entirely wanting. Vomiting is a common symptom at the outset. The temperature may be subnormal, the only one of these conditions in which it may occur at first. The pulse is rapid and feeble. A moderate leucocytosis is present if the pelvis of the kidney is inflamed or infected. The urinary symptoms should not only help clear up the differential diagnosis between renal colic and other acute abdominal conditions, but should also help to differentiate between the various causes of renal colic.

The most important condition of the urine in renal calculus is haematuria and even when present in microscopical quantity is a most important symptom. Frequent and painful micturition is usually present. Radiographic examination is most important in cases of renal colic due to calculus and although the calculi differ in the intensity of the shadow which they cast they all cast a shadow except the pure uric acid stones, and a good skiagraph is of material assistance in making a diagnosis. A cystoscopic examination with catheterization of the ureters may also give valuable information in regard to the nature of the condition when due to septic or tubercular trouble.

In acute appendicitis the pain is often at first general but within a few hours usually locates in the lower half of the right side of the abdomen and is more pronounced at McBurney's point. The degree and character of the pain depend upon the severity of the attack and the nervous temperament of the patient. It is usually very severe and somewhat paroxysmal. In cases where the appendix is behind the caecum with the tip well up in the loin the pain may be referred to the lumbar region, and in cases where the appendix is in the pelvis the pain is often referred to a point in the left side corresponding to McBurney's point. Tenderness is marked over the lower half of the right side of the abdomen and in a very large majority of cases is distinctly greater at McBurney's point regardless of the position of the appendix. The rigidity of the abdominal muscles is marked, more especially in the lower half of the right side of the abdomen. Vomiting and nausea are common symptoms. Vomiting may occur as an initial symptom or may occur after several hours There is usually a marked rise in temperature and an increase in pulse rate. A leucocytosis of 1,200 is usually present in acute catarrhal cases which rapidly increases with pus formation. A gradually decreasing leucocytosis indicates improvement, but a sudden decrease after a severe attack indicates gangrene of the appendix, the rupture of an abscess into the peritoneal cavity or beginning septic peritonitis.

Acute salpingitis of right side. Pain is perhaps the most prominent symptom, more or less severe according to the kind of infection and the temperament of the patient. Gonorrhoeal infections as a rule are not attended with as much pain as streptococcic or mixed infections. The pain is steady and is increased by any disturbance of the pelvic viscera, as walking, jars from any cause, or defecation. Tenderness is marked over the lower part of the abdomen and is usually proportionate to the amount of pain. Muscular rigidity is usually present to some ex-

tent. Nausea and vomiting may occur from peritoneal irritation. A leucocytosis of widely varying degree is present. Leucorrhoea and menstrual disturbance are also present and form an important part in the history of the case. Vaginal examination reveals extreme tenderness in the region of the ovary and tube, and masses of inflammatory exudate of varying size around the tube makes the diagnosis clear. As all these conditions have the more or less common symptom of vomiting and nausea, acute indigestion must be differentiated from them all.

In acute indigestion severe pain in the epigastrium and marked tenderness are both prominent symptoms. Nausea and vomiting also are early and persistent symptoms. Muscular rigidity is usually present but is not marked as a rule. Temperature and pulse are both increased. A history of more or less stomach disturbance with indiscretion in diet may help to make the diagnosis, yet symptoms of indigestion following a hearty meal are so common in the history of acute appendicitis that these two conditions cannot be differentiated in the early stages. It is well to have in mind the possibility of appendicitis in every case of acute indigestion. Twelve to twenty-four hours will bring changes in the symptoms which will make a differential diagnosis possible. The symptoms of perforation of the stomach and duodenum at first closely resemble those of acute appendicitis and gall bladder disease, and in cases of perforation of the appendix or gall bladder a differential diagnosis would be extremely difficult or even impossible. However, acute appendicitis or inflammation of the gall bladder without perforation can be easily differentiated from perforation of the upper digestive tract at the end of a few hours.

We find that the symptoms of pain, tenderness, muscular rigidity, nausea and vomiting, rise of temperature, increased pulse rate, and leucocytosis are common to all these conditions although they vary considerably in character, and while they are sufficiently clear and characteristic in the large majority of cases to make a differential diagnosis comparatively easy, there are quite a large percentage of cases in which the symptoms are not sufficiently clear, or there are peculiar conditions or complications, which make it extremely difficult or impossible to make a differential diagnosis.

First. Pain.

As a rule the pain is very severe in all these conditions although it has a wide range of degree. It is of two kinds, the direct or that which is located near the diseased organ, and the referred which apparently has no connection with the disease but is felt in some other part of the body.

In acute cholecystitis with or without gall stones the direct pain is in the upper half of the right side of the abdomen, the point of greatest intensity being over the gall bladder and toward the unbilicus. When the gall bladder is situated lower than normal the pain may be in the right inguinal region and could be mistaken for appendicial pain very easily. The referred pain in gall bladder disease is to the right shoulder blade.

In acute diseases of the kidney the direct pain is over the kidney both in front and in the loin. The referred pain in all kidney lesions is to the groin, the external genitals and the inner side of the thigh. It may be to one or more of these points.

In acute appendicitis the direct pain in a very large majority of cases is at McBurney's point. When the appendix is post-caecal and the tip is high up in the back the direct pain is in the lumbar region and might very easily be mistaken for kidney pain. However, the referred pain is in the epigastrium and not to the groin, external genitals or thigh. If the appendix is in the pelvis the pain is often referred to a point on the left side of the abdomen corresponding to McBurney's point.

In acute salpingitis the direct pain is in the inguinal region over the ovary and tube. The referred pain, when present, is in the sacral region and down the back of the thighs.

In acute indigestion the direct pain is in the epigastrium and the referred pain, when present, is in the left shoulder blade.

The character of the pain in these conditions varies so much in apparently similar cases that it is of little value for differential diagnosis. The location of the direct pain is of special importance in determining the location of the lesion as also is the location of the referred pain.

Tenderness is common to all these conditions and varies in degree very much, it is most pronounced directly over the organ affected.

Muscular rigidity is present in all these diseases with sometimes the exception of kidney cases. It is much more pronounced in dis-

eases of the gall bladder and appendix. In the former it is more marked in the upper right quadrate, and in the latter in the lower right quadrate of the abdomen, it also is a very variable symptom.

Nausea and vomiting may be present in all and are common symptoms in most of these conditions. They are not sufficiently characteristic of any to offer any material help in making a differential diagnosis.

Temperature is increased in all except in some kidney lesions, in these it may be sub-normal. The pulse rate is increased in all and neither the temperature nor the pulse offer any material aid in differential diagnosis, excepting in renal colic without infection of the pelvis of the kidney, when the temperature is subnormal, but if there is infection there will be a rise of temperature.

A mild leucocytosis may be present in all these conditions and if there is pus formation in any of them it would be high.

The most important symptoms for making a differential diagnosis are pain (direct and referred), tenderness as elicited by palpation, and the symptoms which are only referable to special organs as the presence or absence of leucorrhoea, the presence or absence of bile in the urine or feces, jaundice and the condition of the urine, these with the history of the case which is all important, will make a differential diagnosis possible with few exceptions.

The differential diagnosis of the chronic diseases of these organs involves practically the same analysis of symptoms.

Pain though not as severe is a reliable guide to the location of the trouble, it may be absent in some cases at the time of the examination but there is usually the history of previous attacks of well located pain.

Tenderness is a very important symptom in chronic cases, palpation not only fixes the point of greatest tenderness but also should detect the presence of tumors if they exist.

The history of chronic cases is most important and sometimes it will be impossible to make a differential diagnosis without it. Examination of the urine and feces should always be made if there is any question about diagnosis.

X-ray examination only offers help in cases of suspected stone in the kidney and a negative examination does not prove the absence of stone, for uric acid stone does not cast a shadow.

It should be remembered when making examinations for intra-abdominal lesions that it is possible for one patient to have several diseases and consequently the symptoms of more than one lesion which may be confusing. A movable kidney and chronic appendicitis are very commonly found in the same patient. Appendicitis is very often complicated with salpingitis. Gall stones may exist with any other condition, so that it is not wise to always try to explain all the symptoms from one lesion.

THE PART PLAYED BY ENTEROLITHS IN ACUTE GANGRENOUS APPENDICITIS, WITH POINTS ON DIAGNOSIS.

BY

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In a subject so well known as appendicitis we must present new points, or little interest will be aroused. In this paper we shall endeavor to explain some of those cases, which have not followed the usual classical course of the disease. In common catarrhal appendicitis we feel with more or less certainty that we can map out its usual course, and prognosticate with some accuracy its ultimate outcome, but we often meet the disease where it follows no law, and where the condition found today could not have been foretold by the patient's symptoms of even a few hours ago, nor can we form any opinion as to what is likely to occur in the twenty-four hours to come. It is this fact which has led most surgeons to say that the safest time to operate is during the first twelve hours of the attack.

From operating upon a number of these cases early and noting the findings, we have come to the conclusion that a large percentage of the sudden and unexpected results have been from perforation of the appendix produced by pressure necrosis, and that the concretion almost invariably found bore a definite relation to this necrosis and perforation, determining its site. Both the pathology of these cases and their symptoms place them in a class by themselves. Although fortunately these cases are not the most numerous, they still form no mean percentage, and from the necessity of prompt surgical intervention make up a class of great im-

portance, and one from which most of the deaths have occurred where operation has been delayed.

Concretions are never found in normal appendices, being present in organs more or less changed by inflammation, with thickened mucosa, and some reduction in the calibre of the appendix. The immediate cause of appendicitis is always microbic infection, but it has been demonstrated that microorganisms, incapable of invading healthy tissue, find ready entrance when this tissue has been changed by trauma or is of lowered vitality due to either diminished nutrition or sluggish circulation.

The enterolith acts as a foreign body, passive it is true, but upon which the appendix contracts, perhaps quite violently, especially during attacks of increased general peristalsis, and these contractions, in the presence of a swollen and congested mucous membrane cause greatly increased irritation leading to congestion, swelling, and of necessity lowering the vitality of the tissues by continued pressure. All that is necessary at this stage is a reinfection for the doors are wide open to the microbic invasion with its consequences.

These attacks may be brought on by anything producing a catarrhal condition, as intestinal indigestion, enterocolitis, grippe, and other infections, which it is now known are prone to aggravate appendicular troubles.

Appendices containing concretions are particularly liable to external injury and usually furnish the cases of traumatic appendicitis occasionally seen, produced by blows, kicks, lifting, etc.

It is quite true that these concretions may remain within the appendix making no trouble for years, as gall stones may nest within a gall bladder, but this does not argue against the fact that they are adjuncts to infection for, if the latter occurs, they become no longer innocent tenants, but produce as much or more trouble in their location as do their cousins in the gall bladder. In view of the preceding facts and knowing that these cases, if fatal, will be so rapid in their course that by the second or third day the patient may pass suddenly from a condition of apparent safety to one of desperate seriousness, it would be beneficial could we find a few symptoms, at least suggesting this form of trouble, thus enabling us to advise early operations.

Symptoms. The symptoms of this form of appendicitis have in our experience been different from those usually shown in the ordinary catarrhal variety, and have proved misleading to many physicians who have formed the bad habit of endeavoring to tide over all cases to the interim before advising operation.

First of all let us speak of pain. The patient may often complain of fleeting, colicky pains, which perhaps have existed for years in the appendicular region with occasional sudden attacks of what has often been termed appendicular colic. These attacks of appendicular colic somewhat resemble in symptoms an attack of biliary colic or the passage of a renal calculus, and are aggravated by anything which produces increased peristalsis, although they may be relieved after the bowels have thoroughly emptied themselves.

This brings us to the next symptom which I wish to emphasize, and that is the usual slight fever which exists during the first twenty-four or forty-eight hours of the disease. In nearly all the cases which I have studied, pain out of proportion to the temperature has been present, fever having been entirely absent or not registering much above 100° F, until perforation and subsequent peritonitis have followed. Many of us have seen patients complaining of pain in the region of the appendix with the symptoms just described, which have continued from a few hours to two or three days, and then subsided without a rise of temperature above 99° F. This is the type termed appendicular colic, and strongly suggests the presence of enteroliths.

It may be well to emphasize here that if we wait for fever, and are guided by it, we shall wait until the patient has lost his chances for an uneventful recovery, and it will mean as a general rule a drainage case.

Tenderness, especially at one point, is almost invariably present. If lost quite suddenly at the end of twenty-four to forty-eight hours, if this loss of tenderness is associated with a markedly increased pulse rate, or, if the pulse has become dicrotic and the leucocyte count, more especially that of the polymorphonuclear neutrophiles, is increased, no matter what the temperature is, we have probably a gangrenous condition beginning, which is a forerunner of perforation. I have noticed several cases which have illustrated this nicely.

Rigidity of muscle may be absent except dur-

ing the colicky pain, when it is present to a marked degree in the lower half of the right rectus, and, therefore, a less constant symptom than in the catarrhal variety. It may be totally absent in the presence of gangrene, as may also be the tenderness, usually returning with peritonitis.

The pulse may be affected only as pain would influence it in the given individual, until such time as gangrene begins, when we have often noticed a low tension, dicrotic, and irregular pulse usually increased in rapidity. After perforation the pulse is influenced by the shock produced.

Blood examinations are as yet imperfectly understood by most of us. A marked increase in the "polys," however, strongly suggests, in the absence of much fever, a gangrenous condition and impending perforation.

When perforation occurs, which may be as early as the end of the first day from the beginning of active symptoms, we may have a chill, or chilly sensation accompanied by vomiting with all the symptoms of shock so well known to us. The patient passes rapidly from a condition of comparative safety to one of great seriousness, and we have to deal in a few hours with those cases of general peritonitis, fortunately not so fatal as formerly because of our improved treatment. The golden opportunity, however, has been lost. The patient, who a few hours ago might have been operated upon with safety, and have been promised an uneventful recovery, must now be operated upon in emergency with doubtful chances at best, and, if this is many hours delayed, we are face to face with those hopeless cases well remembered by the older men, but now becoming less and less frequent.

Vomiting accompanied by nausea may be present early and means no more than it does in any case of biliary or renal colic. When coming on later it is usually a regurgitation of food and intestinal contents unaccompanied by nausea, and indicates intestinal paralysis from gangrene, etc., or peritonitis.

Distension is usually an early sign in severe cases coming on at about the same time as the other bad symptoms and is unfavorable whether it be due to local infection, or to paralysis due to general intoxication, or to gangrene.

Hiccough, well marked in many fatal cases, has been due to involvement of the diaphragm from inflmmation. In those cases which have recovered, it has proved to be a reflex symptom from an acute toxic nephritis.

Bloody stools have been present in two cases and have had to be differentiated from intussusception.

Jaundice is especially apt to be present in pyaemic cases, and when complicating those with enteroliths we have usually found the appendix retrocaecal.

By studying the above symptoms we can divide these cases into:

I. Those of appendicular colic, in many of which there is nothing but painful contractions of the appendix upon the offending enterolith, subsiding with little or no inflammation.

II. Those in which the swollen and infected mucosa produces such severe tension upon the diseased and inelastic wall of the appendix, owing to the presence of the enterolith in its interior, that gangrene and perforation take place in from one to three days.

III. And still another class belonging to the same enterolithic type, but differing in that the appendicular wall has not as yet lost its elasticity, and yields to the pressure from within preventing early gangrene and rupture of the appendix, but usually accompanied by violent infection. These cases offer the best chance for easy invasion by the colon bacillus and others. The second class may be found with but little if any pus, whereas this class being somewhat longer delayed furnish a focus for severe pyogenic infection. The appendix will either be found loaded with pus, with its walls mottled and spots of gangrene showing plainly and with its interior black from the gangrenous process, or, if there have been adhesions, the case may be still longer delayed and the appendix may be hidden away in the wall of a large abscess cavity, while you may remove from this cavity one or more free enteroliths. In this class of cases the symptoms are similar to the other two classes during the first forty-eight hours, but instead of recovery or perforation there is a sudden rise of temperature, perhaps preceded by a chill, accompanied by greatly increased rigidity and tenderness presenting the severe infectious variety.

The explanation of these three types is simple. In the first class, that of colic, there is an abundance of room in the appendix, and we have simply painful contractions of the appendix upon the enterolith unaccompanied by infection.

In the second class the elasticity of the appendicular wall has been lost from prolonged disease, so that when infection and inflammation with their accompanying swelling take place, gangrene is inevitable and this occurs early in the disease, from the end of the first to the third day of active symptoms.

In the third class the elasticity has not been lost to such an extent, the circulation in the outer coats of the appendix preserving it from early rupture. The case is prolonged sufficiently, perhaps to the third or even the fifth day, for infection to play the more active part in the subsequent history of the case.

To illustrate the first class or those of Appendicular Colic, I beg leave to report the following cases:

Mr. W. A. of Monkton had had six or seven attacks of severe colicky pain in the region of the appendix. As he had never had any fever, several physicians who had seen him said that it was not appendicitis. One physician told him that they were attacks of appendicular colic. The present attack had begun four or five days before we operated. He was very tender, but had no temperature until the third day, when he was taken with very severe pain. The temperature shot up, and in another twenty-four hours a tumor could be felt in the right side. Upon operating a large abscess poorly walled off was found, and a concretion was free in the abscess cavity. This case really belongs to the first and third classes, the previous attacks belonging strictly to those of appendicular colic and the last attack to that of appendicular colic, gangrene, late perforation, and abscess with much infection.

Miss G. R. of Cambridge, age 21, had stomach trouble for seven or eight years. Had three attacks of pain and tenderness in the right side accompanied by vomiting, but no fever. Present attack had severe pain, no fever, but tenderness over the appendix. Operation showed appendix containing two or three enteroliths, and which was in a condition of catarrhal inflammation at the sites of the enteroliths.

Master L. of Bristol, age 7, had four attacks. This last attack was peculiar, sick three days and better three days, then severe chill and temperature would go up to 104. Appendix was continuously tender. Found the appendix filled with enteroliths and fecal matter, and an ulcer with an infarction under one of the enteroliths. The peculiar part was the high temperature and chills, which continued after the removal of the appendix at about the regular intervals. After a thorough course of quinine the chills ceased, and we believed that the high temperature was due to malarial origin. The child has been perfectly well ever since.

The second class is illustrated by the following quite interesting cases.

Dr. S., who had been suffering for a long time with indistinct pains described as a crawling, itchy sensation in the region of the appendix, following a sharp attack of Diarrhoea, began to have more severe pain in his right side. He kept at work, however, all day, and at night called me because he was beginning to get sore over his appendix. There was no fever, and but little tenderness. At about seven the next morning he sent for me. His temperature was 100° F., pulse 72. There was marked rigidity of the right rectus with increased tenderness, and we operated the same morning. The appendix was found lying free in the abdominal cavity, there being no adhesions whatever. There was a large perforation near its center, an enterolith being found among the intestines at about this point. Two-thirds of the organ was gangrenous, and there were two more concretions within it.

Another case similar to the above was that of Mrs. J. G. S., who had suffered with severe colicky pains at times in the region of the appendix without any fever, however, for months, and was suddenly taken with severe pain in the side. I was away operating and Dr. Sabin, then just out of the hospital, made an excellent diagnosis in the case, stating that he believed the case to be one of enterolithic appendicitis. Her temperature was only about 99°, but there was severe pain and marked tenderness. The next morning she appeared to be better, her temperature being 99 7/10°, pulse 85, but not as strong. All her people were away, and she desired to wait until they returned before operation. At about ten o'clock, just twenty-four hours from the time of onset, she was taken with a very severe pain in the region of the appendix, requiring the use of one-half grain of Morphine to control the pain and accompanying shock. Her temperature after reaction was 101 3/5°, pulse 118, and she felt comfortable. While we were preparing for the operation she began to vomit a dark brown liquid, containing changed

blood and becoming fecal in character. Only a little over twenty-four hours from the time of the first pain we removed the appendix. There was a perforation near its base at the site of a fecal concretion, and the intestinal contents were escaping into the peritoneal cavity, there being no adhesions. There were one or two more concretions within the appendix.

The appendices in either of the two preceding cases, not being walled off, it is most certain that they both owe their lives to prompt surgical intervention.

Miss M. P. of Richmond, age 19, has had slight trouble previously. Began to feel badly two days ago. Yesterday morning began to have severe pain and considerable soreness, which localized over McBurney's point. Temperature on second day was 99½°, but patient seeemed to be getting worse. Her physician brought her to the Fanny Allen Hospital less than forty-eight hours from the time of the first pain and practically twenty-four hours from the time when she gave up. Her temperature, when she entered the hospital had risen to 101°, pulse 136, and muscles were very rigid. This was following a twelve mile drive in the ambulance. We operated at once and found the appendix behind the caecum, there being gangrene and perforation.

Master W. F. of Burlington, about nine years old, was taken with severe pain in the right side, but had no fever. Dr. Sabin made diagnosis of Enterolithic Appendicitis. He was operated upon the next day after symptoms began, it being thought best to operate in the night without delay, as patient began to have a rise of temperature. A small enterolith was found, and the appendix was gangrenous at its location.

Mr. C. B. of Lincoln, age 37, had first attack which was slight five years ago. Has had much stomach trouble ever since. Two days ago pain began in the bowels, and he took a small dose of salts giving him eight or ten movements. The next day pain was more severe, and Dr. Russell saw him. He had no temperature, his pulse was good and about 100. There was a slight tenderness over the whole abdomen. In the evening pain and tenderness localized in the right side, and he was particularly tender at one point. The next morning he was much worse and there was severe pain. The temperature went up to 102°, and pulse became more rapid. We operated that night, finding the appendix lying on the outer side of the caecum with considerable pus, protected, however, by frail adhesions. The appendix had perforated near its base, and a large enterolith was free in the peritoneal cavity. This case has made an excellent recovery.

Now I wish to report under the second class five cases of general peritonitis due to enteroliths, where a few adhesions have delayed the case a little longer, but have made the results all the worse ultimately.

Master H. M. of Burke, N. Y., age 15, had history of pains at times in the appendicular region. On July 14th he had severe attack of pain and a tumor soon developed. He was brought to the hospital and operated upon July 19th at which time the appendix was found deep in the pelvis, adherent, gangrenous, and containing a concretion. On account of the great amount of pus present and well marked general peritonitis, the wound was left wide open and drained thoroughly with patient in the exaggerated Fowler position for four days. Patient vomited altered blood and contents of small intestine. His stomach was washed out whenever he began to vomit, nourishment was given per rectum, and a hypodermoclysis of about two pints of normal salt solution was given every eight hours. Hypodermics of heart tonics and anodynes were necessary, and small doses of calomel were given continuously. After about one week his bowels began to move, and he made an uninterrupted recovery.

Miss M. A., age 21, suffered three attacks of pain in the region of McBurney's point, but without history of fever. Entered hospital with temperature 103°, pulse 150, and respiration 30, having been sick four days. There was marked rigidity of the entire abdomen and considerable distension. We found the appendix in frail adhesions, large, and gangrenous throughout almost its entire length and containing several concretions. The abdomen was filled with a turbid, purulent looking fluid. The intestines were red, and lymph was being thrown out rapidly. Another incision was made in the left side, and long, large cigarette drains were inserted into the pelvis and abdomen, gauze strips being employed to retain the intestines on the right side. Patient placed in the Fowler position and treatment given like that in the preceding case. Patient made a good recovery.

Mr. F. U. of Richmond, age 19, was taken

ill two days ago with pain and soreness in the right side. He, however, was able to work on the next day which was Friday, and there was no fever. On Saturday he was taken worse with a temperature of 101°. On Sunday, Feb. 28th, he was taken to the Fanny Allen Hospital, his temperature being 101, pulse 136, and his white blood count 22,000. His appendix was found perforated, and the peritoneal cavity filled with pus, making it necessary to drain from both sides. He was put in the exaggerated Fowler position, and instead of the hypodermoclysis, a constant small stream of hot normal salt solution was kept flowing into the bowels. He did well for a week, when he began to run a temperature. This was accompanied by effusion into the right plural cavity which gradually improved and his temperature once more became normal night and morning. Shortly before his death, May 14th, both pleural cavities filled. At the autopsy two quite large abscesses were found among the intestines, all the intestines were matted together, there was a subphrenic and a subhepatic abscess, and both pleural cavities were partially filled with effusion, and the pericardial sac was much distended.

Mr. B. P. of Grand Isle, age 22, has been sick several days. Palpation reveals tumor in the right side in the region of McBurney's point with severe pain and tenderness. Temperature 102°, pulse 108. Operation showed appendix ruptured, pelvis full of free pus and inflammatory exudate. Appendix was removed, and on account of the beginning general peritonitis, a counter-opening was made on the left side, and the case treated as the previous ones with ultimate recovery.

Mr. H. R. operated on at the Mary Fletcher Hospital, August 3, 1908. September 30th he was kicked by a man in his right side, later had swelling, and since then has had much pain. Peritoneum was distended with pus, and the bowels were distended with gas. Appendix was found ruptured, and an enterolith was free in the peritoneal cavity. Later on another small enterolith was removed from the cavity. Adhesions were cut away, and the appendix removed. The wound was left open and drained, and a counter-opening made on the left side. Patient was placed in the exaggerated Fowler position.

The third class, where the ulceration of the mucosa due to the presence of concretions has opened the channels of microbic invasion, is well illustrated by the following cases:

Mademoiselle F. of Bristol had been sick for five days. She has suffered severe pain, but the temperature has been low, only 99⅘°, and the pulse normal. There was no severe tenderness, and no great rigidity of muscle, and she seemed to be getting better, when, on the fifth day, her temperature shot up from 99° in the morning to 104° in the afternoon, and the pulse to 130. Upon operation we found marked odor of gangrene, and removed the gangrenous appendix containing two or three concretions, but no perforation or pus.

A similar case was Mr. S. of Essex Junction, age 34, taken ill December 29th with signs of appendicitis. There was not much fever and the pulse was not very rapid, although patient had one of the worst hearts as a result of previous rheumatic trouble to which we had ever listened. On the second day he experienced very severe pain, and his temperature rose to 102°. A well marked tumor formed, and he was brought to the hospital for operation. His temperature the next morning was 99°, but his pulse was very rapid. The case was similar to the one just reported only there was some gangrene. The appendix was gangrenous throughout its entire extent containing several concretions, and was removed. The peritoneum of the intestines, the omentum, the pelvic peritoneum, and the tissues beneath it were black and gangrenous. Free drainage was provided, but the patient died on the following day.

Mr. T. L. of Brandon, age 16, has had pain at right costal border for about two weeks. Present trouble began Saturday morning. He was going to work at 6.30 A. M., when he slipped and fell striking on his back. He commenced to have pain at the umbilicus at 7.30 A. M., worked until 4.30, when he quit and went home because the pain was so severe. Called a physician that evening who found him suffering with colicky pain around the umbilicus. Sunday night he became sensitive at McBurney's point with a temperature of 100°. Came to the hospital Monday. When admitted his temperature was 103°, and pulse 110. He was suffering from acute pain on the right side and was very tender at McBurney's point. We operated immediately, and found the appendix adherent with pus all around it. The tip of the appendix and two inches above it was gangre-

nous, and contained an enterolith the size of a large orange seed. Wound was drained. On the morning following operation, the patient looked yellow and septic, and there was considerable Jaundice. He developed a cough, and began to spit yellowish sputum on the second day after operation, complaining of the right lung being sore. Dullness was found and side appeared to bulge. Liver dullness was increased downward as well as upward. Pleura was tapped and no fluid found. An operation was decided upon, and the usual posterior incision made for nephrectomy was employed. A large quantity of pus was found beneath the liver, and an opening into the liver indicated that a hepatic abscess had discharged in this location.

Another interesting case was that of Mr. C. C. B., age 42, taken while in Montreal with severe pain in the right inguinal region. He was able to come home where he seemed to get a little better. On the fourth day, however, he was worse with a temperature of 102°, and pulse 110. Previous to this time there had been very slight fever. At the operation we found an abscess cavity internal to the caecum, running up toward the liver well above the navel. The entire appendix was removed gangrenous, and a concretion was found free in the abscess cavity. Large sloughs came away for some days, as the wound was left well open and packed with gauze. After about five days the patient developed vomiting, and for two days vomited contents of small intestine. He had obstinate hiccough and I was at a loss to discover the cause of his trouble, but upon examining the urine we found 15% albumin with epithelial hyaline, and granular casts, blood, etc. He had been kept in the Fowler position, and was given aconite and cocaine by the mouth. His stomach was washed out as often as he began to vomit fecal matter. He was placed in a hot pack twice daily, and given a hypodermoclysis of normal salt solution following the pack. By degrees he improved, and has recovered.

Three other cases, Mr. P. S. operated on August 29th, 1908, Baby Fuller of Rochester, and Mr. B. B. of Burlington operated on at the Mary Fletcher Hospital, all showed abscess cases due to enteroliths with free enteroliths in the abscess cavity. One interesting point in our four year old Baby Fuller's case was noted at the second operation when the appendix was removed, the scar being present where the enterolith had been discharged. The appendix was entirely healed, but contained another concretion nearer the caecum.

I have operated on five other cases recently where the appendices have been gangrenous, and contained fecal concretions. They were, however, so well walled off by adhesions that they seemed to act as ordinary abscess cases.

Records of the following cases have been kindly sent to me by some friends:

Case reported by Dr. Sabin, and operation by Dr. Wheeler. E. S. J. 10½ years. For the past few months has occasionally felt slight twinges of pain in right inguinal region. About five weeks ago while walking on the street had an attack of acute knife-like pain in right inguinal region lasting several minutes. Patient obliged to sit down until pain ceased. January 13th, taken with moderate pain across upper abdomen about level of stomach. Slight tenderness at McBurney's point. Slight nausea, no vomiting. Temperature ranging between 99½° and 100°. No constipation at any time. During following night and day, pain gradually left abdomen, and pain and tenderness gradually increased at McBurney's point. Bowels moved very freely. Temperature 99½° and 100°, pulse about 100. January 15th, pain, tenderness and muscular rigidity at McBurney's point. Area of tenderness on pressure about size of quarter. Pain characterized as constant and steady with occasional sharp twinges. Temperature 99½° and 100°, pulse 110. Slight nausea at times. January 16th, morning, temperature normal. Pain, tenderness and rigidity increased. Operation by Dr. Wheeler. Concretion and small band over appendix just above concretion.

Case reported by Dr. Pease, operation by Dr. Pease assisted by Dr. Clark:

C. C. of Winooski, age 23. Admitted Feb. 22, 1907. Family history negative. Patient in good health up to within ten days ago. While undressing at night she was taken with a sudden and severe pain in the abdomen and vomiting. In the morning the pain had become localized low down in the right side. When admitted she had a temperature of 101° F. Abdomen distended and tympanitic, very tender over McBurney's point and complained of pain in same locality. Bowels constipated. A small well defined tumor could be made out low down in the right iliac fossa. Abdomen distended. Muscles

of abdomen were tense. Uterus found to be enlarged, and patient gave a history of having been pregnant for the past four months. Diagnosis—suppurative appendicitis complicating pregnancy. Immediate operation advised. Operation performed by Dr. Pease assisted by Dr. Clark. Abdomen opened and a large pus cavity found. Appendix has sloughed away, and an enterolith was found free in the abdominal cavity. Wound partly closed and a gauze drain inserted. Patient made a rapid recovery and left the hospital March 20th, contrary to advice, the wound not having quite filled in.

Case reported by Dr. Allen, operation by Dr. Allen assisted by Dr. Shea:

G. H. of Winooski, age 18. Admitted Jan. 9th, 1907. Family history negative. Last July he had slight attacks of pain in the right iliac region but not severe enough to cause him any inconvenience. The Friday morning before Christmas he was awakened by a severe pain in the stomach, which he says lasted all day. Friday night his bowels moved three times and he felt better. Saturday afternoon while working in his studio he was suddenly taken with a sharp and severe pain in the right iliac fossa, which caused him to fall to the floor. Pain lasted until Sunday night and was accompanied by vomiting. Said the doctor told him he had a temperature of 103° F. Pain gradually diminished in severity and at the end of two weeks he was back at work. The third day following, while sitting in a chair, he was taken with a severe, sharp, cutting pain in the right iliac fossa. Pain was accompanied by vomiting. He went to bed immediately and in one-half hour his bowels moved and when the stool was examined it was found to consist largely of pus. Bowels continued to move about every half hour until admitted, pus being always present in the stools. When admitted on January 9th, he had a temperature of 102.5° F., and a pulse of 96. He looked very septic and on palpation he complained of severe pain directly over McBurney's point. Abdominal muscles somewhat rigid and abdomen distended. While being examined his bowels moved and the stool was found to consist largely of pus. Diagnosis—Appendicitis. Immediate operation advised. Operation performed by Dr. Allen assisted by Dr. Shea. A three inch incision made over McBurney's point. Bowels found distended with gas. Many fresh adhesions, some running down into the pelvis. Appendix found adherent low down and gangrenous, about ¾ of an inch of necrotic tissue being left. A fecal concretion about the size of a large pea came out of the base of the appendix. The base was tied off and the remains of the appendix removed, stump touched with carbolic acid followed by alcohol. Abdominal cavity in the vicinity of the appendix was carefully wiped out and the incision closed in layers, after leaving a cigarette drain down to the former site of the appendix. Patient made a rapid recovery and was discharged cured on February 8th, 1907.

Report of case furnished by Dr. Slayton of Morrisville:

H. S., a well nourished and very bright boy of fourteen giving a history of two attacks of severe colicky pains in right iliac region which had been diagnosed by the physician as "probable appendicitis," and from which he had apparently recovered, was taken on Sunday with a seemingly mild attack of the same disease. His physician did not favor an operation, but on Wednesday the patient had become so much worse that the family decided to call in some one else and the patient came under my charge at which time the temperature was 101° and pulse 120. An immediate operation was decided upon and a surgeon sent for who operated the same evening, finding a large sac of extremely offensive pus in which was a tremendously swollen and gangrenous appendix, protruding through one wall of which was a fecal concretion about five-eighths of an inch in length and one-fourth inch in diameter. With the exception of a small fecal fistula which gave considerable trouble for the first week, recovery was uneventful.

Report of Dr. P's case, former House Surgeon at the Mary Fletcher Hospital:

Attack one year ago, colicky pain and vomiting. Thought it indigestion and due to eating oysters. Out on second day. No fever. Attack this year. On Thursday at 1.00 A. M. pain, colicky in character in center of abdomen. Took high enema and Castor Oil. Vomited, which vomiting kept up until after operation. No action from bowels. Operation Friday morning. Appendix free in abdominal cavity with perforation near tip and a concretion protruding. Patient nearly died on table and in critical condition for three days. Good recovery in four weeks.

Of these thirty cases reported in this paper two died, giving us a mortality rate of 6.66%. It is true that we often remove appendices containing enteroliths, which seem to be making no trouble. The appendix is found roomy, and its walls are thus saved from friction, trauma and pressure, and even slight inflammatory attacks may occur and pass off without much trouble, as the drainage is good, but let these attacks of inflammation occur often, thus narrowing the channel, and diminish its elasticity, and let the concretion become harder and larger, and we must ultimately reach the point where trouble is inevitable, and of such a variety as to need prompt surgical intervention. The enterolithic type of appendicitis is more severe because of its misleading symptoms than any other, and more fatal than any variety except that of acute fulminating appendicitis.

It would seem that we are warranted in the following conclusions: That no one, however experienced can with certainty foretell the condition of a patient suffering from appendicitis twenty-four hours from the time of his last visit. That the most innocent cases, judging from the temperature and pulse, are apt to prove the most disastrous and the change is quite likely to come suddenly. That Dr. Wyeth and others at the meeting of the American Medical Association two years ago were quite right in saying that the only safe time to operate is in the first twelve hours of the attack, and that there need not be one death in four hundred, if this time were universally selected.

Concealed Appendix.—Augustin H. Goelet, of New York, describes two cases with characteristic symptoms of appendicitis, in which operation showed that the appendix was inclosed within the coverings of the intestine. In both cases it had to be dissected out at the operation and proved to be diseased. Both cases recovered.—*Med. Record,* June 5, 1909.

There are in the United States 298 Sanatoria, 222 Dispensaries and 290 Associations for the treatment or prevention of tuberculosis, while there are 600,000 cases of this disease in the country. It is estimated by the United States Conservation Commission that this country loses annually $1,000,000,000 from preventable tuberculosis.

SPEECH DEFECTS AND VOICE CULTURE.

BY

E. W. SCRIPTURE, PH.D. (Leipzig), M.D. (Munich).

New York.

Author of "Researches in Experimental Phonetics, Carnegie Institution, Washington, D. C.;" "Elements of Experimental Phonetics, Yale University Bicentennial Publication;" Visiting Physician for Speech Defects to Randall's Island; Attending Physician to the N. Y. Neurological Hospital; Director of the Psychiatrical Laboratory of Columbia University; Formerly Assistant Professor and Director of the Psychological Laboratory of Yale University; Lecturer on Phonetics in the University of Marburg, Germany.

Stuttering.

"Stuttering" and "stammering" are terms applied to a disease whose most striking symptom consists in cramps or excessive tension of the organs connected with speech. These cramps may show themselves in spasmodic contractions of the lips, as in the case of the captain who gave the order "Ready! Aim! F-f-f-f-f-f-shoot! confound you." They may show themselves also in cramps of the breathing muscles, as in the case of one of my friends, who in the middle of a sentence would suddenly become speechless with a cramp of the abdominal muscles; we were obliged to sit in silence for a minute at a time; he could not speak on account of his cramp and I could not on account of politeness.

Stuttering is essentially a mental trouble—a psychoneurosis—arising from a compulsive idea. Dr. Johnson was compelled to touch every post that he met in his walks. Some children are compelled always to step off with a certain foot. Stutterers are compelled by the thought of speaking to tighten up all their muscles of speech so that they move stiffly or get into cramps.

Stutterers have no difficulty in singing, because they have no compulsive idea connected with the thought of singing. Most of them can speak perfectly in a dialect for a similar reason.

The cure of stutterers has to proceed on the principle of training them to speak in some new way. Since this new way is free from the compulsive idea, they do not stutter while they are using it. The simplest new way is merely to sing what you want to say; as long as you sing you will not stutter. This is, however, an impractible procedure, for the stutterer wants to speak, not sing.

Other new ways are: to drawl the vowels, to speak while beating time, to speak in a hollow voice, to speak very slowly, etc., etc. These are the methods of the "stammer schools." They are effective in that for a short time the patient can manage to speak in an odd way with more or less success. When the result is permanent, it usually leaves the patient with some vocal oddity. The cure is rarely permanent, however, because the patient naturally tries consciously or unconsciously to get rid of his oddity, that is, of the very thing that is curing him.

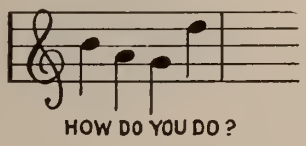


Fig. 1. Notes for a phrase to be sung.

There is, in my opinion, only one form of cure that is scientific; it consists in teaching the patient to speak in perfectly normal voice. To the stutterer this is a "new voice," just as odd to him as singing or any of the queer ways of speaking. The moment he speaks in a normal voice he ceases to stutter because he is freed from his compulsive idea.

putting melody and flexibility into his laryngeal tone.

By "melody" we mean the rise and fall of pitch for successive syllables. Melody may be indicated by notes on a staff or by the rise and fall of a line. Let the words "How do you do?" be sung as indicated by the notes in Fig. 1 or by the line in Fig. 2.

By "flexibility" we mean the rise and fall in pitch within each syllable. In singing, each word has a constant pitch as indicated by the straight lines in Fig. 2. In speech each word has a rise and fall in pitch as indicated in Fig. 3.

The speech of the stutterer is monotonous and stiff having neither melody nor flexibility (Fig. 4).

The pitch of the laryngeal tone is determined by the degree of tension of the vocal cords. To vary the pitch constantly as in Fig. 4 the cords must change their adjustments at every instant, that is, the laryngeal muscles must be freely and delicately poised and must act readily and accurately. The stutterer, however, cramps them up so that they can move only with difficulty. He consequently sticks to one tone as much as possible. His action resembles that of a child who cramps the pencil tightly in his

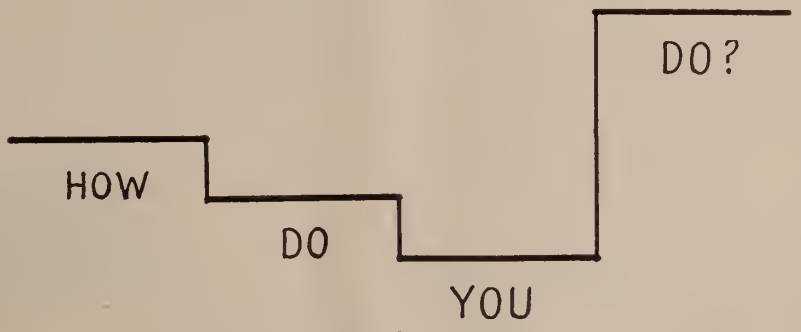


Fig. 2. A phrase sung.

In what respects is a stutterer's voice abnormal? Many stutterers breathe abnormally. They have to learn correct methods. They must take a breath before each sentence and use it evenly in speaking.

There is another defect that is present in every stutterer. It is the most vital defect in his speech. Simply correcting it alone is often sufficient to produce a complete cure. The stutterer cramps the muscles of his larynx so that he speaks in a monotone. The cure consists in

hand; he can draw a straight line with a ruler to guide him but he cannot write or draw gracefully.

The laryngeal cramp may be broken up by the "melody cure." The stutterer is first taught to sing a song or a phrase while accompanied by the piano or another voice. His voice will rise and fall as indicated in Fig. 2 and he will have no stiffness or cramps. Then he must speak the word on the same notes, first with and then without musical accompaniment. His voice will

rise and fall as indicated in Fig. 3. He practices this until he can do it perfectly. Then he is to speak the same words freely. In doing so his voice must rise and fall with proper melody and flexibility. Any lack of these indicates stiffness in the laryngeal muscles.

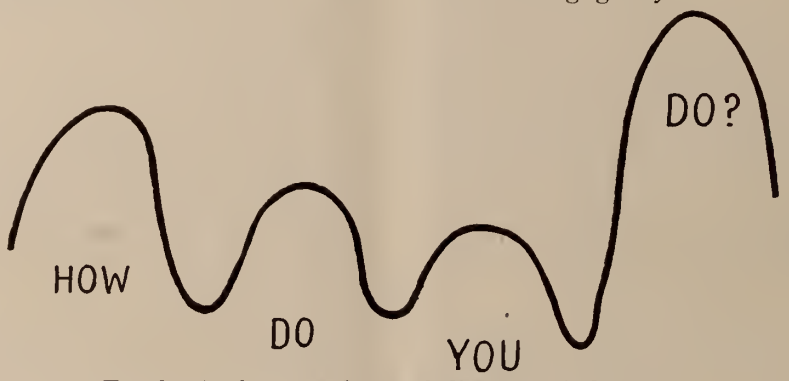


Fig. 3. A phrase spoken melodiously and flexibly.

This melodization of the voice goes on day after day until the stutterer can perform it perfectly. Usually all the other kinds of stiffness and cramps disappear together with the laryngeal stiffness, because the stutterer has learned to speak with a new voice, that is, to use a new set of habits free from the stuttering impulse. In my speech clinic, where only a few minutes can be given to each patient, I rely chiefly on the melody cure. It is effective in about half the cases without any other methods of treatment.

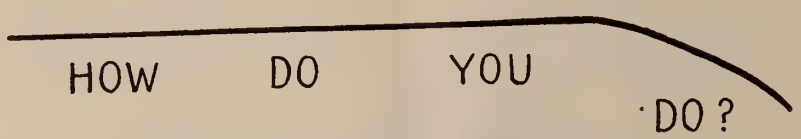


Fig. 4. A phrase spoken by a stutterer, without melody or flexibility.

The stutterer usually acquires many other defects of speaking and thinking. He may talk indistinctly or hurriedly, or he may apparently have a weak or husky voice. He may have developed so much timidity or bashfulness that he becomes a saddened recluse, or he may have made a bold dash for freedom that has resulted in a startling combination of verbosity with stuttering grimaces. His power of attention and his readiness of thought are frequently seriously affected. For each of these defects there are methods of cure as precise and reliable as the melody cure. Time is lacking to describe them here.

Negligent Speech.

The organs of speech may all be in perfect condition and able to produce normal speech, yet they may fail to do this because the person controls them negligently.

Lisping. Negligent action of the tongue produces "lisping." The most common forms are the following ones.

1. s-t lisping. The patient says "toup" for "soup," "tun" for "sun," etc. In saying "s" the tip of the tongue is placed against the palate (Fig. 5) but a small channel is left in the middle so that a fine jet of air is sent out against the teeth. The slightest extra pressure will close the channel (Fig. 6); this produces the sound "t." The cure consists in inserting a probe just over the middle of the tongue and pressing it down as the person tries to stay "t"; the small channel that is made by the probe forces him to say "s."

2. s-th lisping. "People thay I lithp, but I don't pertheive it" remarked one young man. The tongue does not rise sufficiently at the sides to cut off the air while leaving a small channel in the middle. This defect often arises from defective teeth or from tongue-tie. The patient is taught to press his tongue more tightly; or he is told to use "t" for "s" and is then corrected as in 1.

3. th-t and th-d lisping. Very many children say "tin, tree, tum," for "thin, three, thumb,"

and "dis, dick, dee" for "this, thick, the." For both sounds of "th" the tongue must be placed lightly against the palate so that the air escapes at the sides as well as at the front. The defect arises from pressing the tongue too tightly; this makes a "t" or a "d" just as in Fig. 6. The cure consists in inserting a probe at the side of the mouth above the tongue; when the patient tries to say "t" some air escapes at the side and he actually says "th."

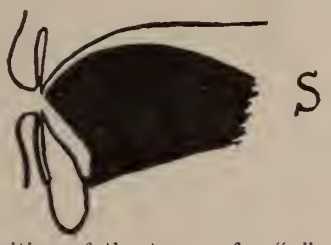


Fig. 5. Position of the tongue for "s," showing the small channel in the middle.

4. Various substitutions. A frequent one is the use of "t" for "k." Both are occlusive sounds with explosions; that is, the tongue cuts off the air entirely for an instant and then lets it through in a sudden puff. For the "k" the stoppage is made by raising the back part of the tongue to the palate. The child will say "tandy" for "kandy" although he will say "car" correctly. The cure consists in having the patient repeat the "k" sound before various vowels and gradually passing over to the defective word, e. g. "ka-ka-ka-kan, ka-ka-kandy."

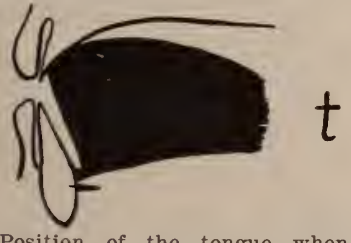


Fig. 6. Position of the tongue when the small channel of Fig. 5 is closed, showing how the "s" becomes "t."

Neglect of Explosions. The sounds "p, b, t, d, k, g hard" are made by stopping the current of air for a moment and then releasing it with a slight explosion. The tongue may be released without producing the explosions; this is the method in French. The peculiarity also occurs with rapid and negligent speakers and with stutterers. They seem to swallow the explosions. To force them to attend to the explosions I have devised a breath indicator (Fig. 8). The person speaks into a mouthpiece leading to a glass tube whose end is against a candle flame. He must repeat words so that the explosives move the flame. Another form of breath indicator is shown in Fig. 9. It is made by putting a piece of rubber membrane over a thistle funnel. A horizontal piece of visiting card is fastened to the funnel by adhesive plaster. Another piece of card is hinged to the first one. A light straw is gummed to it. When the rubber membrane bulges, the straw makes a movement.



Fig. 7. Position of the tongue for "k."

Jaw Stiffness. Many patients do not open their mouths sufficiently when speaking; they speak through their teeth with a queer effect. To show them their fault I have them speak before a mirror or use the following device. A metal cup (Fig. 10) or a funnel is covered with a rubber membrane and is connected by a tube to the breath indicator. The patient rests his chin on the rubber or on a knob attached to it. When speaking he must make the indicator move.

Nasal Twang. This very common defect can be demonstrated by the breath indicator with the flame. A glass nasal tip (Fig. 11) is attached to the tube. Whenever air issues from the nose the candle flame is blown aside. The pure vowel will show no movement of the flame if properly spoken.

The nasal twang reaches its extreme in cases of cleft palate; the consonants "p, b, t, d," etc. are so nasalized that they sound like "m" and "n." After operations for cleft palate the patient has to learn to raise his velum to cut off the nasal passage. I usually advise the child to get a mouth harmonica and learn to play it, at first holding his nose so that the air is forced through his mouth but gradually learning to dispense with that.

For mild cases of nasal twang it is not necessary to search in the clinics. Indeed, the number

of us who regularly nasalize our vowels without having a suspicion of it is very large.

The American Voice.

When a piece of machinery rattles and puffs and squeaks, instead of working steadily and quietly, you naturally suspect that something is wrong with it, either that it was designed wrongly or that it is not operated properly. When we listen to the average American talking, we notice a hard, droney drawl with a nasal twang that has been termed the "American voice." The

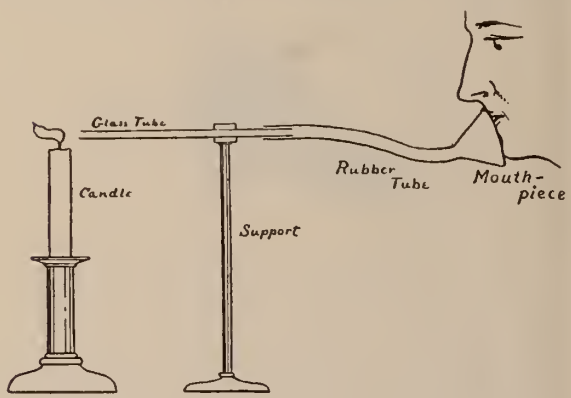


Fig. 8. Breath indicator with candle flame.

average American rattles in his throat, grinds his vocal cords together and squeaks through his nose. Is his vocal machinery badly designed? Is it constructed of inferior material? Or is it merely operated slouchily? My experience with stutterers and lispers has shown me that the fault lies entirely in the operating. It has been amusing to reform a stutterer of the bad type that has every imaginable defect and send him out with a beautiful flexible and clear voice and then to hear him complain of the harsh drawling speech of his family. In fact, to keep the patient from suspecting that I am trying to refine his voice as the main thing, I regularly explain to him that the sole purpose of the study of melody, flexibility and so forth is to keep him from stuttering, and that, if he gets thereby an excellently trained voice, he gains just so much extra.

Since even the worst stutterers can be made to acquire a form of speech that is agreeable to the ear, it is evident that normal individuals can be taught to speak in a way less offensive than at present.

It is impossible to enumerate all the faults of American speech; each person has his own special collection. I will go over some of the most typical ones and suggest the cures.

The first peculiarity of the American voice that strikes us is its hardness. This I will illustrate by repeating a few words in a hard voice and then in a soft one. You notice that the hard voice sounds as though I were hammering away at my speech while in the other voice I take my ease. In fact, the hard voice is due to excessive contraction of the muscles of speech. With the soft voice I express my ideas just as plainly, and I gain in two ways: first, in saving myself a great deal of muscular labor and, second, in producing a more pleasing impression on the hearer. No orator can use a hard voice; he would quickly tire both himself and his audience.

A soft voice is not a weak voice. A great

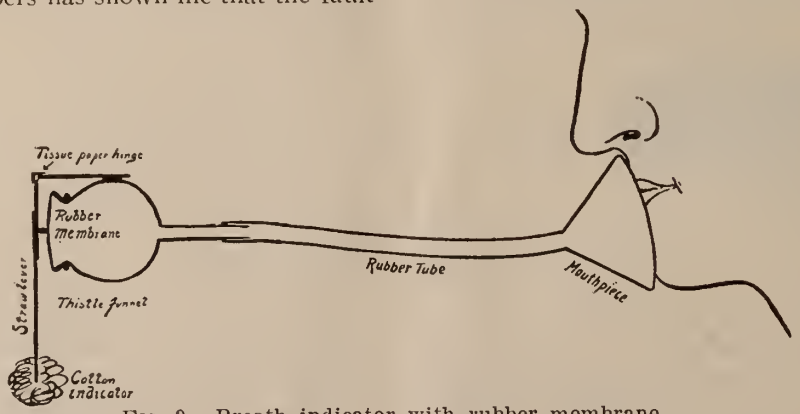


Fig. 9. Breath indicator with rubber membrane.

orator or preacher can speak his words in a soft, winning voice that penetrates every corner of a large hall.

Another American defect is the drawl. This may be defined as a manner of speaking in which

the syllables are spoken with unusual slowness and are run into each other instead of being spoken distinctly.

The familiar nasal twang is due to negligent action of the velum. In the so-called "pure" vowels the velum is raised to the back of the pharynx so that no air issues through the nose; when the velum is not properly raised air issues through the nose and the vowel sounds nasal.

I will not go further into the list of defects that may be found in the voices of Americans; I will only say that most Americans are afflicted with the three I have mentioned.

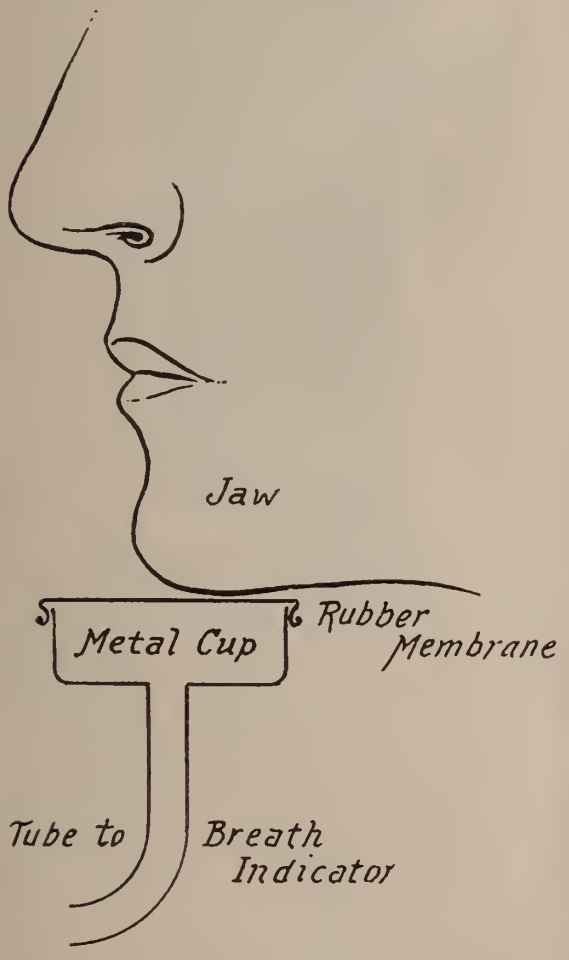


Fig. 10. Indicator for jaw movement.

There remains the problem: what are you going to do about it? In a few colleges and private schools there are special teachers who look after the voices of the pupils. Why not introduce similar work into all the schools? Pupils are taught to spell correctly and write decently. In general we consider bad spelling as a mark of vulgarity. Bad grammar and bad manners are things that we do not like to be accused of. We do not like to be slouchily dressed; why should we not be particular to clothe our ideas as well as our bodies in decent garments?

How are the vocal defects of Americans to be corrected? I am not joking when I suggest that they should all be treated as incipient stutterers and should have melody, flexibility and distinctness of enunciation put into their voices.

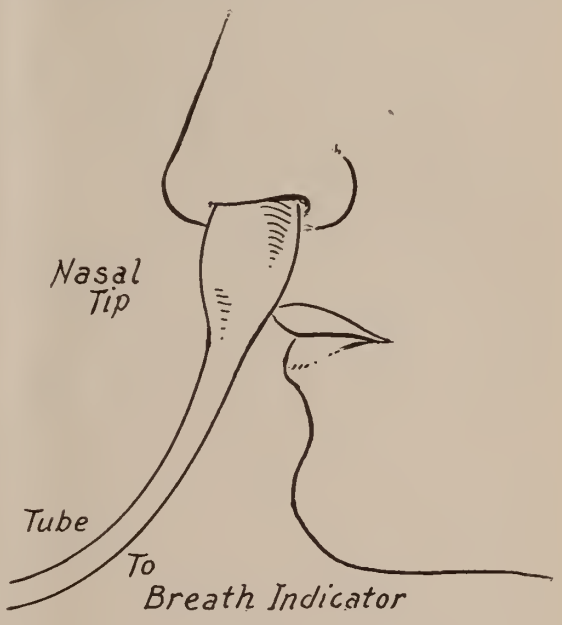


Fig. 11. Indicator for nasality.

The Study of the Singer's Voice.

In recent years a new science has arisen that applies careful methods of registration and experiment to the study of the voice in speech and song. I will briefly describe some of them.

The voice of the speaker or singer can be caught by the phonograph or the gramophone and registered as a curved groove. In the last few years these instruments have been so perfected that an expert can make records that reproduce the voice simply to perfection. This has gone so far that many large restaurants place songs by Caruso on their musical programs. The guests actually hear him sing while the orchestra plays. Of course, it is only a gramophone record that is used, but no one can tell by his ear that a living singer is not present.

To study the curves of sound of such a record of the voice I have devised an apparatus that traces them off on long strips of paper (Fig. 12). The record of the song is placed on this apparatus and is made to revolve very slowly. A steel point in the speech groove moves a very long straw lever that records its movement on a moving strip of smoked paper, making a white line that reproduces in great magnification all the peculiarities of the sound groove. I have succeeded in getting such a lever to magnify the sound waves of the groove accurately 300 times. The record is varnished and can be studied at leisure with a magnifying glass.

I now show you a strip from a Caruso record (Fig. 13). As you see, we have here the voice of the singer preserved and all its details visible. In fact, the method brings the microscope to the study of the singer's voice with the result that an entirely unexplored field is opened up. Consider for a moment what we shall find. The entire vocal effect proceeding from the singer is contained in the vibrations of the air. Since the method gives us accurately these vibrations in visible form, we cannot help observing all the peculiarities of the singer's voice, provided we have eyes and sense to see them. For example, parts of Caruso's rendering of "Di quella pira" from *Trovatore* are characterized by a delicate emotional effect; on looking at the curve we readily see variations in the sound waves that produce the effect—in fact, we actually see the tear in his voice.

One of the most curious things I have found in the record is his way of singing the words "O teco." The two consonants "t" and "c" are surds, that is, the vocal cords do not vibrate during them. To sing "O teco" the cords vibrate during "O," stop during "t," vibrate again during "e," stop again during "c," and vibrate again during "o." Caruso gets a more melodious effect by avoiding this repeated starting and stopping; the curves show that he keeps his cords vibrating during both "t" and "c." Of course, the sound is altered but so slightly that you would not notice it unless you are looking for it. On the other hand the voice gains in melodious effect by the smoother action of the vocal cords. Similar cases occur repeatedly in Caruso's records. He is entirely unconscious that he does these things. In fact, he was rather indignant at the suspicion that he did not pronounce his consonants correctly. The curves proved the fact to him, however, and he was mollified by the explanation that the change was one that was an artistic improvement.

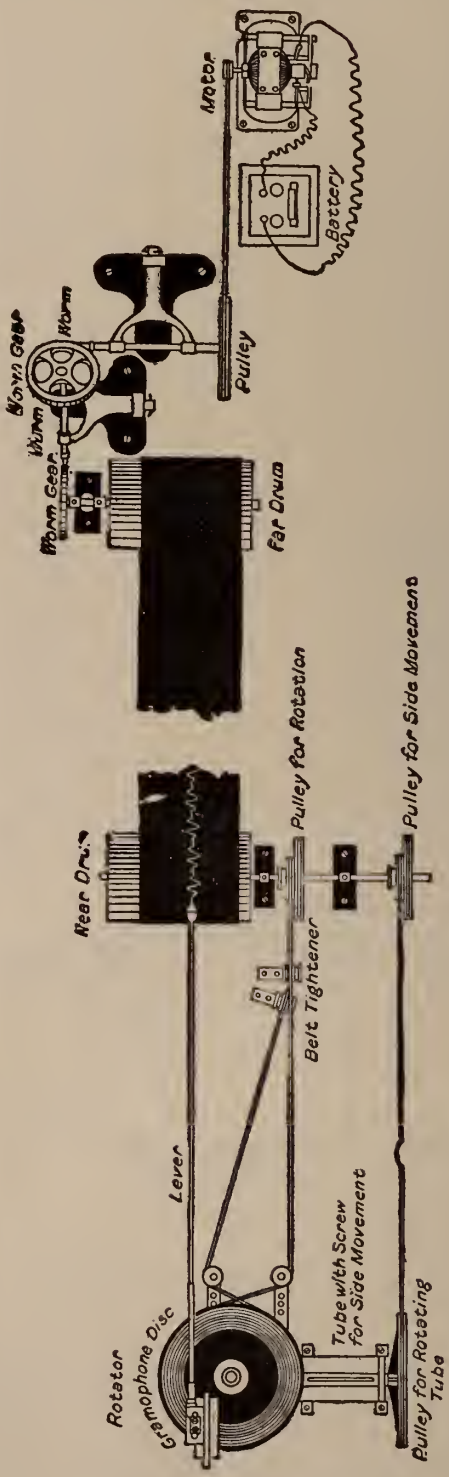


Fig. 13. Machine for tracing gramophone records.

I cannot go further into the subject on the present occasion. I will simply say that the singer's voice is now being studied in the same spirit of scientific investigation that has given us our anatomy, histology and physiology.



Fig. 12. A few vibrations of "high C" sung by Caruso.

DISCUSSION.

Dr. G. G. Marshall, Rutland, Vt.—The demonstrations of this clinic show that by patient and skillful work these unfortunate children, suffering from speech defects, may be cured or at least greatly benefited. Not only should the physician be qualified to give these patients intelligent treatment, but his work should be supplemented by that of the public school teacher with whom they are in daily contact.

It may be unnecessary to say that when there are abnormalities of the nose, throat, teeth or lips, these should first receive our attention. Congenital harelip should be corrected early in infancy, while the operation for cleft palate should be deferred until the child is about two years old or just before the child learns to talk.

Defective speech centers, by careful training, can be much more highly developed and the speech correspondingly improved. Not only is this true in congenital defects, but also when caused by disease or injury, provided the lesion is not too great. The relief that may be given these unfortunates is worthy our earnest efforts.

We are deeply indebted to Prof. Scripture for his instructive lecture and clinic and wish to express our appreciation of his kindness in expending so much time and labor in so fully illustrating his subject.

Dr. W. W. Townsend, Rutland, Vt.—I make the motion that a vote of thanks be extended to Professor Scripture and that he be made an honorary member of this society.

Dr. C. S. Caverly, Rutland, Vt.—All those who so order, manifest their approval by saying "Aye."

The motion is carried and the Secretary is ordered to extend to Professor Scripture a vote of thanks and Professor Scripture is made an honorary member of this society.

Properties of Adrenalin.—Concerning the properties of adrenalin, R. Kothe concludes that it is the most powerful analeptic drug that we possess. Intravenous injections are particularly suited in acute and serious disturbances of the cardiac and respiratory mechanism. The dose here is ½ to 1 Cc. of the commercial solution. The drug is most potent in severe collapse due to lumbar anesthesia and narcosis, and in every case of surgical shock. In hemorrhage as well as in peritonitis it is recommended in combination with saline infusion. The pulse will return, the blood pressure rises, and the ghastly color disappears. It is likely that there is a direct action upon the heart and upon the centers in the medulla. When an infusion is given, one liter should be used, with the addition of 20 drops of solution. The results were least satisfactory in peritonitis, but probably because only the gravest cases were selected.—Therap. d. Gegenw., Feb., 1909. *Merck's Archives.*

Homer Folks, of New York City, recently stated before the National Association for the Study and Prevention of Tuberculosis that there are in the United States at the present time 75,000 cases of tuberculosis in advanced stages of the disease, every one of whom should be isolated in hospitals, but there are at the present time only 5,000 hospital beds for these cases in the entire country.

The number of deaths during the four years of the Civil War was 205,070. During the past four years 800,000 deaths have resulted from tuberculosis alone in the United States.

Germany has 82 sanatoria for tuberculosis, which hold over 20,000 poor consumptives; the cost of each sanatorium is about $100,000. Through organized effective methods, Germany has reduced the death rate from consumption by one-half throughout the nation. In the German Army, tuberculosis has diminished 42 per cent during the past 20 years (from 3.3 per cent per thousand to 1.9 per cent per thousand of the effective force).

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

H. C. Tinkham, M. D., B. H. Stone, M. D., } .....*Editors.*

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EDITORIAL.

The remarkable popularity of such fads as the Emmanuel movement should carry a lesson to the regular medical profession. Why do the various cults, homeopathy, osteopathy, eclecticism, and the quasi religious cures, Christian science, the Emmanuel movement, and even the flagrant quackeries flourish so luxuriantly and last so long? Is it entirely due to the credulity of humanity? We do not think so. Is it not rather because these various schools and cults seize upon some actual fact and build their usually ridiculous and top-heavy structures upon this foundation? The regular school is in some ways too conservative, too fearful of stepping out of beaten paths. Would it not be better to sift these things with an unprejudiced mind instead of scouting them altogether and add the kernel of truth to our store-houses? Because some dishonest or misguided people have carried reasonable ideas to extravagant and ridiculous conclusions is no reason for absolutely ignoring the truths. The Emmanuel movement certainly has in its mental suggestion, some virtue which the physician of the regular school can ill-afford to ignore. He should use this psychological element in his practice. It is a duty which he owes his patient. In fact he does and always has used suggestion to some extent in an unconscious and unintentional way. Who has not seen the good effects of a visit to the sick room of a strong forceful physician, even without medication and who can fail to doubt that it is this effect rather than the comparatively inert drug given which most often accounts for the tonic effect on the patient? How much more might this man use these forces for the real benefit of his patient if he had a training in mental suggestion! Scientific massage is an extremely valuable therapeutic agent in many conditions. Why delegate the knowledge of its application entirely to the osteopath and professional masseur? These agencies should not be ignored. Our medical schools should not be hide-bound. The regular medical profession should not complain peevishly of the success of such therapeutic measures but should rather grasp the ideas and use them in an honest, logical way for the mitigation of suffering and the cure of disease.

The various medical schools have once more sent forth a motley crew of fledgling doctors and each young graduate has gone forth firmly convinced that humanity is to be wonderfully benefited by his curative skill and that he is incidently to fill his meagre exchequer. All this confidence and courage will be needed to withstand the hard knocks ahead. Very few will find success so ready to honor and reward their attainments as they now imagine and yet the larger number of these men will be successful in a modest way. A good living awaits every doctor who unites in his character sound principles and sturdy perseverance. Few will attain wealth, yet nearly all will fill honorable positions in society, earn a comfortable living and

have the satisfaction of knowing that the world is really a better place for many to live in by reason of their efforts. The average doctor dies without leaving an estate. This is not altogether due to his small income but rather to the fact that the exaction of his profession tends to make him a poor business man. Thus the few medical men who do attain wealth are invariably those who take time to make careful investment of their savings and who are fortunate in their investments. We sometimes think that a course in business should be included in the medical curriculum.

Attention has again been called to the serum diagnosis of syphilis by Dr. Noguchi who has brought this valuable aid to diagnosis within the reach of the ordinary skilled physician, by his ingenuous technique.

The original Wasserman was much too complicated to be of general use and was open to many sources of error especially among those not perfectly familiar with it.

The reaction is of great value in the differential diagnosis of certain nervous diseases notably cerbro-spinal syphilis from multiple sclerosis and in the diagnosis of paresis in the early stages, and therapeutically as a guide for the administration of mercury, as the syphilitic patient fails to give the reaction when properly brought under the influence of this drug.

NEWS ITEMS.

Dr. Maud A. Powell has opened an office in Laconia, N. H.

Dr. C. M. Dodge, Manchester, N. H., died June 19, aged 63.

Dr. F. J. Pherson, Jefferson Medical, has opened an office in Manchester, N. H.

Dr. R. Halford Miner, formerly of Rutland, Vermont, is now at Windsor, Vermont.

Dr. James F. Loughran and Miss Rose E. Morris of Lowell, Mass., were married at Lowell, June 2nd.

Dr. and Mrs. Wm. Stevens of St. Albans have returned from Europe where they passed the winter.

Dr. Byron G. Ingalls of Skowhegan, Me., and Miss Elsie Martha Walton were married June 9th at Skowhegan.

Dr. Wm. H. Fuzleton of Lawrence, Mass., and Miss Helena M. Reardon of Haverhill were married June 30th.

The Vermont State Board of License Censors will give their midsummer examination at Burlington, July 13-15.

Dr. Edward Mellus of West Newton, Mass., and Miss Marion Heath were married at Augusta, Me., June 1st.

Dr. Maurice W. Russell and Miss Frances A. Miller of Providence, R. I., were married at Lewiston, Me., June 19th.

Mrs. Harry W. Coburn, wife of Dr. H. W. Coburn of Lowell, Mass., was drowned at Killarney, Ireland, June 21st.

Dr. E. G. Dearborn of Milford, N. H., has purchased the real estate and practice of Dr. F. G. Warner, Antrim, N. H.

The Aldermen of Rutland have appropriated $2,500 for an isolation hospital for contagious diseases to be erected near the poor farm.

Dr. Arthur W. Pratte has been appointed to the staff of the Elliot City Hospital at Keene, N. H. succeeding Dr. Gardner C. Hill, resigned.

Dr. L. L. Leonard has been elected a member of the Barre City Hospital Staff filling the vacancy caused by the resignation of Dr. J. E. McSweeney.

Dr. Lewis Parady formerly of Burlington, now practicing medicine in Jacksonville was married June 30th to Miss Florence E. Austin of Kittery Point, Me.

Dr. F. H. Carlisle of Foxboro, Mass., narrowly escaped injury in a severe automobile accident at Middleboro, Mass., June 14th. The car was demolished.

Dr. Daniel A. Chase of Medford, Mass., died at his home on June 3rd, aged 90 years. Dr. Chase was a graduate of the Jefferson Medical College, of Philadelphia.

Dr. W. H. Mitchell who has been located in Pownal has moved to Tunbridge, taking the practice vacated by Dr. H. H. Hayward, who has moved to Randolph.

Dr. Chas. M. Dodge of Manchester, N. H., died at his residence, June 20th, aged 62 years.

Dr. Chas. Miller of North Falmouth, Mass., died at his residence in that city, June 28th, in his 89th year.

Dr. Isaac S. Curtus, Maine Medical School, 1872, died suddenly at his home in Brunswick, Me., June 9th.

Dr. F. R. Hastings, Barton, Vermont, is expected home from a two months' vacation in London, England, Aug. 1st.

Dr. Herbert W. Hall of the Augusta (Me.) Insane Asylum and Miss Mabel B. Goodwin of Togus, Me., were married in Augusta, June 19.

Dr. L. P. Adams of Oakland, Cal., is visiting friends in Swanton and Burlington. Dr. Adams graduated from the College of Medicine of the University in 1899.

Dr. Edward F. Gage, of Winthrop, Mass., died of pneumonia, after a short illness, May 31st, aged 46 years. Dr. Gage was a graduate of the Harvard Medical School.

Dr. Arthur B. Smith of Chelsea, Vermont, died after a brief illness, at his home on May 17th, aged 57 years. Dr. Smith was graduated from Dartmouth Medical College in 1874 and had practiced in Vermont since that time.

Dr. Clarence John Bell, Wellflett, Mass., and Miss Hattie Richmond Durham of Middleboro, Mass., were married at Middleboro, June 24th. Dr. Bell was at one time assistant physician at the Brattleboro Retreat.

Thales Irving Stanton, M. D., University of Vermont, Burlington, 1877; New York University, New York City, 1878; for thirty years a practitioner of Baltic, Conn., died suddenly at his home in Franklin, Conn., May 26th, from heart disease, aged 60 years.

Dr. Florinan J. Taylor of Pittsfield, Maine, died after a short illness on May 24th, aged 54 years. Dr. Taylor was graduated from the Rush Medical College of Chicago in 1818, and was for some time on the board of United States Pension Examining Surgeons for Somerset County.

Dr. Jacob Ross, a graduate of the medical department of the U. V. M. in the class of 1908, and Miss Elizabeth Holmes were married June 12. In September they will leave for Pekin, China, where Dr. Ross is under appointment as instructor in the medical department of Union Christian College.

At the annual meeting of the Board of Trustees of the University of Vermont it was voted to take over the entire management of the college of medicine. Hereafter the finances of this department as well as the appointments to the teaching force will be under general management of the university.

Dr. Durell Shepard of West Haven, Conn., died on May 17th, at his home, aged 77 years. Dr. Shepard was a graduate from Yale Medical School in 1864, had practiced in West Haven for forty-three years. He was a veteran of the Civil War, and a member of the American Medical Association and the State and County Medical Societies.

The Maine Medical Association met at Portland, Me., June 16-18. The following officers were elected: president, Gallie Woodcock of Bangor; vice-presidents, Stanley P. Warren of Portland, S. E. Webber of Calais; secretary, W. Bean Moulton of Portland; treasurer, E. W. Geliring of Portland; delegate to American Medical Association, Alfred D. Sawyer of Fort Fairfield.

New Tuberculosis Hospitals.—New York City is soon to add to the group of buildings on North Brother Island, by erecting four pavilions of four stories each, with a total frontage of one hundred and fourteen feet, which will be used for the treatment of cases of tuberculosis. The buildings will be of concrete roof with copper and slate, and will cost about one hundred and forty thousand dollars.

The Massachusetts Medical Society held its annual meeting at the Medical Library in Boston, June 15. The following officers were elected for the ensuing year: president, Dr. Silas D. Presbrey, Taunton; vice-president, Dr. Joseph G. Pinkham, Lynn; secretary, Dr. Walter L. Burrage, Boston; librarian, Dr. Edwin M. Brigham, Brookline; treasurer, Dr. Edward M. Buckingham, Boston.

At the meeting of the Connecticut State Medical Society the following officers were elected: president, Dr. Samuel D. Gilbert, New Haven; vice-presidents, Drs. Theodore R. Parker, Willimantic, and William J. Tracey, Norwalk; secretary, Dr. Walter R. Steiner, Hartford; treasurer, Dr. Joseph H. Townsend, New Haven; delegates to the American Medical Association, Drs. D. Chester Brown, Danby and Everett J. McKnight, Hartford. New Haven was chosen as the next meeting place.

At the fourth annual session of the Association of Rutland Railroad Surgeons, held in Rutland, the following officers were elected: president, Dr. Clayton W. Bartlett, Bennington; vice-president, Dr. Frank M. Rogers, Alburg; secretary-treasurer, Dr. Stanton S. Eddy, Middlebury; and executive committee, Drs. James S. Hill, Bellows Falls, Clifford A. Pease, Burlington, and M. R. Crain, Rutland.

At the annual meeting of the Academy of Medicine held at Atlantic City, June 5 and 7 the following officers were elected: president, Dr. James H. MacBride, Pasadena, Cal.; vice-presidents, Drs. Philip Tenner, Cincinnati, W. Bair Stewart, Atlantic City, Ruth Webster Lathrop, Philadelphia, and H. W. Loeb, St. Louis; secretary and treasurer, Dr. Charles McIntire, Easton, Pa.; assistant secretary, Dr. Alexander R. Craig, Philadelphia.

The American Pediatric Society held its 21st annual session at Lenox, May 27th and 28th. These officers were elected: Dr. D. L. Edsall of Philadelphia, pres.; Dr. D. J. Milton of Atlantic City, 1st vice-pres.; Dr. E. W. Saunders of St. Louis, 2d vice-pres.; Dr. Samuel S. Adams of Washington, sec.; Dr. Charles Hunter Dunn of Boston, treas.; Dr. L. E. Fetra of New York, editor. The society voted to meet in Washington, May 3-5, 1910.

The 57th quarterly meeting of the York county medical society was held June 3rd at Dunston. Pres. R. S. Gove of Sanford was in the chair. The physicians decided to adopt the new constitution recommended by the American Medical Association. A paper entitled "Typhoid Pneumonia" was read by Dr. B. F. Wentworth of Scarboro. After a short discussion of the paper a shore dinner was served. In the afternoon a paper on "Pleurisy and Its Effects" was read by Dr. Augustus Thayer of Portland, the discussion being led by Dr. J. A. Randall of Old Orchard.

Attachments for $10,000 each in actions of tort were filed June 14th against Dr. Hosea M. Quinby, superintendent of the state insane hospital at Bloomingdale, Dr. Walter C. Haviland and Dr. Ray W. Greene. The suits are brought by M. T. Flaherty, as counsel for Mrs. Nellie M. Conant of Worcester, in an action to recover for her alleged incarceration in the insane hospital May 6. She was confined to the hospital for three weeks and then discharged as cured. The basis of the suits is alleged lack of professional skill in making the examination of Mrs. Conant as to her sanity.

No more sensational statement has been made in public lately than that of Dr. T. Alexander MacNicholl of New York, who told the American Medical Association of Philadelphia that 78 per cent of the children in the lower grades of New York schools are addicted to drink. Ten thousand school children from various public educational institutions of New York city will be examined by the health authorities to ascertain whether or not there is any basis for this assertion. The board of education believes the physician's sensational charges are absolutely without foundation. The investigation will begin at once.

The 43rd annual meeting of the Maine Homeopathic Medical Society was held in Augusta, June 8th. The following officers were elected for the ensuing year: Dr. John T. Palmer of Portland, pres.; Dr. William H. Kennison of Madison, Dr. George H. Rand of Livermore Falls, vice-pres.; Dr. Luther A. Brown of Portland, rec. sec.; Dr. Carrie E. Newton of Brewer, cor. sec.; Dr. William S. Thompson of Augusta, treas.; Dr. C. M. Foss of Dexter, Dr. M. S. Holmes of Oakland, Dr. Annette Bennett of Augusta, Dr. A. I. Harvey of Bangor, board of censors, F. A. Ferguson of Bath, Dr. W. V. Hanscom of Rockland, Dr. J. F. Trull of Biddeford, Dr. L. A. Browne of Portland, committee on legislation.

At the Sixtieth Annual Session of the American Medical Association, held at Atlantic City, N. J., June 7th to 11th, the following officers were elected: President, Dr. William H. Welch, Baltimore, Md.; First Vice-President, Dr. Robert Wilson, Charleston, S. C.; Second Vice-President, Dr. Charles T. Kipp, Newark, N. J.; Third Vice-President, Dr. Alexander Lambert, New York City; Fourth Vice-President, Dr. Stanley P. Black, Pasadena, Cal.; General Secretary, Dr. Geo. H. Simmonds, Chicago, Ill.; Treasurer, Dr. Frank Billings, Chicago, Ill.; Trustees, Dr. C. E. Cautrell, Texas; Dr. M. L. Harris, Chicago, Ill.; Dr. C. H. Dougherty, South Bend, Ind.; Dr. Wm. T. Councilman, Boston, Mass.

The College of Medicine of the University of Vermont held its annual commencement June 30th, 1909. The following men received the degree of Doctor of Medicine: Melvin Pirl Bad-

ger, Manchester, N. H.; Charles William Bouvier, Spencer, Mass.; Howard Daniel Brooks, Burlington, Vt.; Edmund Clay Burrell, Bethel, Vt.; Eldridge Arthur Carpenter, Boston, Mass.; Eugene James Cray, Bellows Falls, Vt.; Warren Levi Diller, Buffalo, N. Y.; Herbert Alton Durham, North Hero, Vt.; Fred Heywood Freeman, Ph. B., Sterling, Conn.; Frederick Washburn Guild, Boston, Mass.; Edward Albert Herr, A. B., Waterbury, Conn.; William Madison Higgins, St. Johnsbury, Vt.; Fred Martin Hollister, B. S., Bennington, Vt.; Perley Adelbert Hoyt, Hardwick, Vt.; John Matthew Klein, Fairfield, Vt.; Leslie Edward McKinlay, Barnet Center, Vt.; Harry George Mellen, Washington, N. H.; Willis Beecher Moodie, West Tisbury, Mass.; Jeremiah Joseph Morin, Bellows Falls, Vt.; Thomas James Morrison, Somersworth, N. H.; Walter Woodruff Parmalee, Burlington, Vt.; Edward Francis Phelan, Ludlow, Vt.; Hubert Francis Powers, East Greenwich, R. I.; Jonathan Harris Ranney, Pittsfield, Vt.; Francis Gerald Riley, Burlington, Vt.; Gilbert Frank Rist, Burlington, Vt.; Harry Albert Schneider, Palmer, Mass.; Isaac Paul Sharon, Burlington, Vt.; Ralph Brittain Thomas, Annapolis Royal, N. S.; Leopold Theodore Togus, A. B., Hooksett, N. H.; Charles Bertram Warren, Ogdensburg, N. Y.; George Walter Williams, Burlington, Vt.; Daniel Townsend Winter, Jr., Pine Hill, N. Y.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

HUMAN PANCREATIC JUICE.

H. C. Bradley of the University of Wisconsin reports (*Journal of Biological Chemistry*, May, 1909) an interesting series of experiments made possible by the appearance of a patient with a pancreatic fistula. Drainage continued from this fistula for about four weeks, during which time observations were made looking to the verification, or otherwise, of our knowledge of pancreatic functions. It was impossible to estimate the amount or rate of flow, on account of the dressings required, but it was evident that the rate of flow increased after the taking of a meal. The specific gravity was pretty constant at 1010 to 1012. All samples were found to be alkaline in reactions, and it was further demonstrated that the alkalinity was due to carbonates and bicarbonates. As to the enzymes, rennin, invertase and lactase were not found in any of the samples obtained. The juice would not curdle milk. Amylopsin was abundant and seemed to be fairly constant in amount from day to day. Much work was done with trypsin and its precursor, trypsinogen, in an attempt to answer the questions: Can trypsinogen be activated by substances other than enterokinase? Does normal pancreatic juice ever contain trypsin? Is there any indisputable evidence of pancreatic adaptation to diet? The first question was answered directly in the affirmative. About one-half the samples would digest gelatin and fibrin without further activation. Several samples developed activity upon long standing, showing not the slightest digestive power for a week or more, but being found highly active after three weeks. This occurred regardless of the fact that every effort was made to exclude bacterial action. All the samples collected were capable of immediate activation by the addition of a few drops of intestinal extracts prepared from four dogs and one cat. The action of lipase was found to be constant and many former observations as to its function were checked. The addition of bile was shown to increase the progress of fat digestion, but its effect could be duplicated by agitation and emulsification in solutions lacking the bile.

TUBERCULIN REACTION.

In summing up a lecture on the tuberculin reaction (*Yale Medical Journal*) Baldwin makes the following points:

1. Tuberculin hypersusceptibility is a phenomenon that distinguishes a tuberculous infected individual from one who is sound.
2. It is characterized by a prompt inflammatory reaction in the tuberculous individual to reinfection, or to contact with tubercle bacilli and their products.
3. The reaction has analogies to those of other diseases, notably glanders and serum disease.
4. It includes a principle originally called anaphylaxis, or acquired susceptibility to proteins, which has been best studied in connection with serum and egg protein.
5. The best explanation for the latter associates it with the breaking up of protein molecules some portion of which acts as a poison to vitally important nerve centers, which have developed a strong affinity for it.
6. Tuberculin hypersusceptibility is ordinarily not acquired from injected tuberculin solutions, but from the prolonged contact of the tissues with the tubercle bacillus itself; i. e., in tubercles.
7. Under exceptional conditions, it may be acquired without the formation of tubercles.
8. The sensitizing substance in tuberculosis has been transferred from one animal to another under special conditions.
9. The heat-regulating and respiratory centers are sensitized, but the cells surrounding the tubercles are predominantly affected.
10. In a physiological aspect, the phenomenon is one of relative immunity, and is called "allergie" by von Pirquet, meaning changed reaction powers.
11. In its normal activity, allergie probably repels infection and conserves life by localizing disease.
12. In overactivity it causes grave toxæmia from the destruction of bacilli in the body, which may in turn result in loss of allergie.
13. In its clinical aspect it is valuable in diagnosis, provided symptoms of the disease are present.
14. The cutaneous tuberculin test is to be preferred to all others, but in case of failure, resort may be had to the subcutaneous method.
15. The conjunctival test has no marked advantages and is occasionally harmful.

16. Tuberculin treatment may have two different objects in view, the first to maintain allergie, the second to abolish it.

17. Both conditions appear useful in aiding recovery, the one by stimulating the local focus, the other by removing danger of toxæmia.

18. Scrofulous skin affections and febrile symptoms are often indications of excessive hypersusceptibility; likewise are the cutaneous tuberculoses, such as lupus.

HEMORRHAGE IN CHILDBIRTH.

The frequency, causes, and treatment of hemorrhage from the parturient canal in childbirth are discussed by J. F. Moran, Washington, D. C. (*Journal A. M. A.*, June 12). These, he says, may occur before, during or after labor, and those occurring before or during labor are either accidental or unavoidable. The accidental are due to partial separation of the placenta from its normal situation, while the unavoidable type is caused by vicious implantation of the same structure. Hemorrhage occurring after delivery may originate from any part of the parturient canal, but postpartum hemorrhage properly speaking is only from the placental site. Accidental hemorrhage from premature separation is not of common occurrence, but it probably passes often unrecognized. Placenta prævia, or abnormally low implantation of the placenta, occurs in from 1 in 300 to 1 in 1,000 pregnancies. The causes are not definitely known, but multiparity and endometritis may be regarded as predisposing factors. Other abnormal conditions probably have influence and each case must be judged by itself. We are powerless to prevent accidental or unavoidable hemorrhages, but postpartum hemorrhage can be prevented usually by proper management and can usually be controlled by measures at our command. The vaginal tampon, which is so effectual in placenta prævia, Moran says, has no place in the management of accidental hemorrhage because of the danger of concealed hemorrhage. In marginal and lateral placenta prævia, rupture of the membrane usually admits of a normal labor by compressing the structures. But in central implantation, bipolar version, perforation, or separation by the finger are the usual methods of treatment. It has reduced the maternal mortality, but the child's life is usually sacrificed, and to avoid this abdominal Cesarean section has been more or less occasionally resorted to. Moran considers that it has a limited but clearly defined field, in complete placenta prævia in primiparæ with undilated cervix. Miller has practiced and recommended ligation of the uterine arteries to avoid hemorrhage in central implantation, and claims that maternal mortality can be eliminated, except by infection, though the fetal mortality might be slightly increased. The objection to this is that, as in the older methods, the chances of the child are too much neglected. The most frequent cause of postpartum hemorrhage is improper management of the third stage of labor, and every nurse should be instructed in the Credé method of placental expression, which should not be attempted, however, too soon. While the mortality, in accidental and unavoidable hemorrhages, is high, even in the practice of skilled obstetricians, postpartum hemorrhage and that from lacerations, are most amenable to treatment, but require an intimate knowledge of the correct procedures under such conditions. His reasons, therefore, for calling attention to so familiar a subject is not its frequency, but the emergency of the situation, which requires prompt and correct management.

THE FAUCIAL TONSILS AND THE TEETH.

G. Hudson-Makuen, Chester, Pa. (*Journal A. M. A.*, June 19), emphasizes the importance of the faucial tonsils from the dentist's standpoint. Diseased faucial tonsils affect the teeth in three ways: First, by impairing the general nutrition; second, by contributing very largely to the local invasion of the teeth by the numerous bacteria that infest their crypts; and third, by their pressure, they interfere with the alignment of the teeth and with the normal development of the maxillary bones. That diseased tonsils affect the general health has been proved beyond shadow of a doubt and the teeth suffer with it, as well as directly by contact with its filthy catarrhal secretion. The third manner in which the teeth are affected by hypertrophied tonsils has, so far as Makuen is aware, not been mentioned in the literature, but he considers it of no little importance. These glands are sometimes very large and dense, and their constant pressure on the surrounding structures may cause changes that will seriously embarrass the normal circulation and respiration, produce neuralgias, etc., as well as interfering with the normal development and arrangement of the teeth. The indirect effect of diseased and hypertrophied tonsils on the teeth and their settings through forced mouth-breathing has been described fully by numerous observers. Makuen pleads, therefore, for the eradication of all glandular obstructions to the normal development of the teeth and alveolar arches, prior to any attempt to remedy the structural defects of these organs. He thus sums up his conclusions. The faucial tonsils and the teeth are in close approximation and they are alike subject to disease or degeneration. Diseased tonsils and teeth are locally and systematically unhygienic. Secretions from the tonsils may infect the teeth, and, contrariwise the tonsils may be infected by the teeth. Diseased tonsils and teeth cause headache, earache and facial neuralgia, and they become a direct source of infection to the glands of the neck and, through the efferent lymphatics, to the general respiratory and circulatory systems. Hypertrophied faucial tonsils often become so large as to affect the ear, the circulation of blood, the nerve supply of the face and head, and the normal development of the alveolar arches. The teeth serve important purposes, but the exact function of the tonsil has not yet been demonstrated. The importance of preserving the teeth has been fully recognized, but the diseased tonsil is not worth preserving, for it has lost its usefulness and become a menace to the human economy. The only rational remedy for diseased tonsils is total extirpation.

MEDICAL PSYCHOLOGY.

E. J. A. Rogers, Denver (*Journal A. M. A.*, June 12), argues that physicians have neglected too much the study of the mind and its functions, and asks if really psychology is not as essential a study for a physician as anatomy and physiology. He refers to the addresses at the last meeting of the British Medical Association by Haldane and Francis Darwin, especially the discussion by the latter of qualities in plants which we usually classify as characteristic of

intelligence. He says if vegetable cells manifest such qualities it is not difficult for us to surmise that individual cells of the animal body may possess, to a certain extent, similar characteristics, though always under the control of cells higher up in the functional scale. Thus step by step we go upward until an ultimate central and always active control is reached. There must be zone beyond zone of directing intelligence, each in its sphere guiding all above it, until the whole is brought into perfect unity. We must realize that while every cell in the body is, in a degree, an individual, still every cell is under the controlling influence of the higher cells until the highest physiologic center in the brain is reached. When we reach the high controlling centers we are very near to consciousness, though the ordinary acts of this control, as shown in physiologic processes, are habitually involuntary. Now we come to the all-important question, Can acts habitually involuntary be in any way controlled by the conscious mind or will? The importance of such control of cell functions by the will is self-evident, if it exists. Professor William James, who, as we know, is a graduate in medicine as well as a psychologist, comes as near, Roger says, to an affirmative answer to the above question as any one he has seen in a short article, in his presidential address to the American Philosophical Association in 1906. Rogers quotes from this several passages, showing that, in every one there are latent powers over the body through the mind when aroused by extraordinary stimuli, which enable one to do and suffer what might have been deemed impossible. All so-called faith healing, if we accept this view to its fullest extent, comes to be simply a volitional act, and he thus explains all the phenomena of suggestion, some forms of which we are using in every phase of everyday life. There is of course a wonderful difference in the facility with which this is done by different individuals, and we have not been able to give the process or any guide by which susceptibility may be determined, except by individual experience. Everything being equal, however, the higher the scale of intelligence, the more easily can concentration and the action of the will be aroused. The power of self-control can, by direct suggestion, be developed more than is possible by any other means, and it is in this way that the mind exercises its influence on the body even to the controlling, it may be, of the primary tissue cells.

BOILS: A NOTE ON THEIR TREATMENT.

Geo. Thomas Jackson, M. D., Professor of Dermatology in the College of Physicians and Surgeons, Columbia University, in the *American Journal of Medical Sciences*, June, 1909, holds that boils are local infections, having nothing to do with constitutional states, and that crops of boils are usually due to improper treatment of the first one, as by poulticing the site, then opening the boil, and in this manner spreading the infecting bacteria. Furunculosis is considered as a systemic condition only in that, for some reason, the natural resistance of the body against staphylococci becomes lowered.

The author's treatment consists in winding a little absorbent cotton on a small, fine-pointed stick, dipping this into 95% carbolic acid, and boring into the boil as soon as it has pointed. The skin nearby is then washed with a disinfectant, a piece of gauze smeared with 5 or 10% ointment of salicylic acid is laid over the area, and kept on for a week. An abortive treatment consists of injecting a drop or two of a 5 or 10% solution of carbolic acid into the boil before it has pointed, or by touching its top with the 95% carbolic, then applying the dressing as above.

Dr. Jackson says that he has used this method for twenty-five years, treating many cases, with uniform success, and cites as examples seven cases, some of long standing, all successfully treated. The use of vaccines is considered useful in extensive cases of furunculosis.

EFFECT OF MILK MODIFIERS ON GASTRIC DIGESTION OF INFANTS.

T. Wood Clarke (*Am. Jour. of the Med. Sciences*, June, 1909) gives a report of investigations undertaken at the Rockefeller Institute, dealing with the commonly used "milk modifiers" and their influence upon digestion both in health and disease. He arrives at the conclusions that the motility of the stomach appears to be in inverse proportion to the concentration of the milk in the solution. The greater the dilution, the more rapidly the organ empties itself. Lime water itself appears not to act, as is generally accepted, by reducing the acidity of the child's stomach. While unquestionably neutralizing a portion of the hydrochloric acid, the alkali stimulates a further secretion of gastric juice, and may produce a hyperchlorhydria. The effect of barley water in the stomach appears at least from the chemical viewpoint to be very slight, neither stimulating nor retarding gastric secretion. The action of sodium citrate is quite definite. It acts similarly to the alkalies in neutralizing the hydrochloric acid, but does not stimulate to a further secretion of gastric juice. The type of infants who vomit persistently may be divided into two classes, hypoacidity and hyperacidity, and test meals should be given to determine the class. He advises a five per cent. milk sugar solution retained thirty minutes to determine differences in the gastric contents and a mixture of milk one part, and water two parts (retained) sixty minutes, to determine to what extent the gastric glands are capable of responding to stimuli.

THE BENZIDIN TEST FOR BLOOD.

This is a very recent method in comparison with the guaiac test. It was first described in 1904 by O. and R. Adler. It is the most delicate of all the tests for blood. It was at first applied directly to a considerable amount (3 ccm.) of the material for examination (gastric contents or watery stools) just as in the guaiac test. This gave a positive reaction with 1 part of blood in 200,000 of water, which has proved too delicate for clinical use. The sources of error when used with gastric contents and feces are similar to, but less numerous than those in the guaiac test, viz. oxidizing ferments in foods and body fluids and certain drugs, particularly salts of iron and other metallic salts.

Several modifications have been proposed to make it applicable to clinical work. One of the best is:—

Schlesinger and Holst's method—This method reduces the delicacy of the test by using a much smaller amount (1-3 drops) of the material for examination, and excludes oxidizing ferments as a source of error, by boiling. Their technic is as follows:

In using the test for blood in feces:—

The material for examination consists of a pea-sized piece of feces thoroughly stirred in a test-tube with a glass rod into about 4 ccm. of water. The tube is lightly stoppered and the contents

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brought to the boiling point to destroy the oxidizing ferments.

Ten drops of a fresh solution of benzidin (prepared by shaking a knife tip of benzidin in about 2 ccm. of glacial acetic acid) is added to 3 ccm. of a 3% (ordinary commercial) solution of hydrogen peroxide in a test tube. This mixture serves as a control on the cleanliness of reagents and glassware.

To make the test add 2 or 3 drops of the boiled feces mixture to the peroxide benzidin mixture. A clear green or blue color appears within a minute or two when blood is present.

This method is quick and very simple. It can be performed within two minutes. It is distinctly more delicate than the Weber guaiac test. The color changes are clearer, sharper and less confusing than in the latter. This is especially true of feces because very little fecal pigment is present to interfere. The ether extraction of the guaiac test is replaced by the simple, quick method of boiling. Benzidin is oxidized by blood even after the latter is boiled; guaiac is not.

THE GENERAL PRINCIPLES OF BACTERIAL VACCINE THERAPY.

Dr. Mark W. Richardson of Boston, contributed a paper (read by Dr. Motter) dealing with the general points as an introduction to the discussion of the subject. He called attention to the fact that vaccines produced an active immunity, the patient producing for himself and the antitoxins to combat the toxins. In order that this be successful, the individual should not be overwhelmed with toxins of the disease, hence over-intoxication should be avoided. A vaccine might be briefly defined as a sterile culture of the organism causing the disease for which it was to be used. The greater efficiency of living organisms in general should be borne in mind, and efforts taken not to change them more than necessary during sterilization. Even living bacilli have been used in cases of tuberculosis. One should begin low and increase gradually to avoid idiosyncrasy. As to the opsonic index it was so time consuming and unreliable that it was not to be advised, in routine practice at least. In the case of typhoid fever, vaccine therapy in the way of immunization had given good results in England and these reports had, in the main, been confirmed by Germany. It was now proposed to introduce the method into the United States Army. It would undoubtedly not come into general use for a long time, but its employment in large institutions was to be recommended. In the treatment of typhoid fever, Chantemesse of Paris, had obtained by far the best results, a mortality of only 4.3 per cent. in one thousand cases. There appeared to be a bactericidal element in the serum he employed. Serum studies in the Mass. General Hospital gave largely negative results except in one case. Fewer relapses, however, occurred. Recently twenty-eight cases of typhoid were treated by vaccines, twenty-five being primary cases, three relapses. The results were not specially striking, but as with the serum there were fewer relapses. With the micrococcus neoformons there was but little basis for its favorable reputation. In the case of the bacillus coli communis in cystitis, etc., amelioration should be secured.

THERAPEUTIC NOTES.

Inflammatory Diarrheas.—By William Edwards Fitch, M. D., Lecturer on Surgery, Fordham University School of Medicine, New York City.

In discussing this subject we will speak of inflammation of the small and large intestines as a single disease. And without taking up the reader's valuable time in discussing etiology or symptomatology we will proceed at once to consider the medical treatment. The first step in this direction is to thoroughly evacuate the intestinal contents, and for this purpose no drug or combination of remedies has in our hands given the satisfaction that calomel has. Usually for a child of two years three grains are ordered rubbed up with sugar of milk and made into three powders and one administered every hour until all are taken, after which an old fashioned dose of castor oil is given, which will produce several copious actions from the bowels. Then I order a high enema composed of the following: Glyco-Thymoline one part, lime water one part and distilled water two parts; about one pint of this solution is thrown well up into the bowel through a long rectal tube and allowed to remain until evacuated.

Experience has taught me that Glyco-Thymoline exerts a beneficial action over the inflamed intestinal mucous membrane. For a child under two years old I order thirty to forty drops in a tablespoonful of water, administered internally every four hours and have found that it acts as an intestinal antiseptic and astringent, not affecting the normal digestive juices. Glyco-Thymoline has a curative action when administered in catarrhal conditions of the bowels. It acts not only by lessening secretions, but also by retarding absorption of toxins and inhibiting septic organisms, restoring the integrity of the intestinal mucous membrane. We know that the principal lesions in this class of intestinal disorder are located in the colon and that this part of the alimentary tract is the seat for the rapid absorption of poisonous toxins. When this idea first occurred to me I at once concluded that lavage of the bowel with an antiseptic (alkaline) solution was rational and would prove a valuable factor in the treatment of this class of enteric disorders. Lavage not only removes fecal accumulations and products of fermentation, but it clears the mucous membranes of the bowels, thereby promoting rapid healing. Another important point to be observed in the successful handling of these little patients is the dietetic management.

New Morphine Substitutes.—Gelseminine is rapidly growing in favor, as presenting most of the benefits accruing from the use of morphine without any of its disadvantages. Gelseminine is a sedative; uniform in its actions, widely applicable, and safe in that when the doses are pushed beyond a remedial limit it affords unvarying indications (ptosis, etc.) of this fact long before an unsafe dose has been reached. It can be given in the usual way, or hypodermically, causing no irritation in the latter instance. It is especially applicable as a sedative, antipyretic and relaxant in cases of children, as well as in those of adults.

The Abbott Alkaloidal Co., presents gelseminine in granules containing 1/250 of a grain (per 100, 26c; 500, $1.25; 1,000, $2.25), and hypodermic tablets containing 1/50 of a grain (per tube of 25, 35c; 100, $1.30).

This remedy combines beautifully with solanine, the "vegetable bromide," one grain of which is equivalent, as a sedative, to 150 of K. Br.

This is furnished in granules of gr. 1/67 as follows: 100, 24c; 500, $1.28; 1,000, $2.50. This combination is especially indicated in "tic," in all facial-nerve affections, as a general sedative and a hypnotic where cerebral congestion predominates.

Phagocytosis.—F. M. Pottenger, Monrovia, Calif. (*Journal A. M. A.*, June 19), offers the following conclusions, deduced from experiments with the blood of various patients presenting considerable variation in the number of cells belonging to the different classes of Arneth, in order to determine if the different classes of cells retained a constant relative phagocytic power: "1. There is more or less definite phagocytic value for each variety of neutrophile (Arneth's classification) acting on staphylococci. 2. This fact will surely throw light on the varying phagocytic values of neutrophiles obtained from various sources. 3. It may aid in the solution of the question of leucocytosis induced for therapeutic purposes. 4. It is evident that Wright's early assumption, namely, that the leucocyte is a comparatively indifferent factor, is wrong."

"Hydrocyanate of Iron."—This preparation which is advertised as being "unexcelled as a remedy for epilepsy, hysteria," etc., was subjected to analysis, and the results appear in *The Journal A. M. A.* June 19. The term "hydrocyanate of iron" is an unfamiliar one and was not to be found in any available reference work on chemistry. Thinking that the term might have been loosely applied to ferrocyanid of iron, or Prussian blue (a compound once suggested for epilepsy, but long ago considered useless), the manufacturers were asked if such were the case. They replied that their preparation was "not Prussian blue in any sense of the word," and added that "Prussian blue has no curative properties as applied to all forms of epilepsy." The inference drawn from the company's literature was that "hydrocyanate of iron" is a definite chemical compound. The preparation was then analyzed and "from the analysis it is concluded that hydrocyanate of iron (Tilden)" is essentially a mixture of approximately equal parts of talc and Prussian blue, containing traces of organic matter having the general properties of alkaloids."



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Winnipeg, Manitoba.
London, Eng.

Scissors-magnet Extraction of Foreign Bodies from the Eyeball.—E. Jackson, Denver (*Journal A. M. A.,* June 19), points out that in a considerable number of cases the electromagnet, whatever its form and however used, fails to remove pieces of iron capable of magnetic attraction from the eyeball on account of their being embedded too firmly in recent exudate or organized tissue. In such cases he thinks we have a resource in the use of scissors attached to the magnet, and he reports two cases in which this method was successfully used. Somewhat similar methods with a knife or strabismus hook attached to the magnet have been reported by Connor and Lang, but this is different from the use of the magnet force to direct a cutting instrument to the foreign body as used by him. The special technic of introducing the scissors and a description of the instrument is also given. The article is illustrated.

Pain and Pott's Disease.—C. C. Wholey, Pittsburg (*Journal A. M. A.,* June 12), reports a case of Pott's disease showing how the symptom of backache may mislead a physician, and how the symptom of pain may divert one from important signs that would aid in making an earlier correct diagnosis. The case was specially characterized by backache, this giving rise to three mistaken diagnoses: calculus, rheumatism and neurasthenia. Backache is a symptom of so many conditions that it has comparatively little value in itself, taken alone. It is probably of overestimated significance in nephritis, except in the acute processes, and when symmetrical is of far less diagnostic importance than when unilateral. Ulceration of the stomach or large intestine is a not uncommon cause and chronic prostatitis is an often overlooked factor. The observations of Head are of value in estimating the significance of pain of obscure types and origin. Wholey believes that Pott's disease would be much more frequently and earlier diagnosed if its initial manifestations, of which pain in the form of backache is often conspicuous, were looked for and recognized. Other symptoms of diagnostic importance and the special location of the backache should be carefully observed when utilizing this symptom in clinical diagnosis.

The Mother of the Man.

No perfect woman she, but unafraid
  She walked the ways of life,
A loving daughter first, then afterwards
  A loyal, loving wife.

She sat upon no pedestal self-reared
  In lofty pride alone,
But shoulder close with workers walked
  To worldly fame unknown.

The simple duties of the common lot,
  Its loves, its hopes, its fears,
With kindly heart and steadfast faith to brave
  Whate'er might bring the years.

She had her place in life, a lowly one;
  But even in her thought
She never shirked the task nor unearned rest
  From present duty sought.

And when a son she mothered won his way
  To fortune and to fame,
The foolish world looked on and wondered much
  Whence all his courage came.

—*St. Louis Globe-Democrat.*

AN AFRICAN TRAGEDY.

A young malaria microbe came limping home to die.
His limbs were wrenched, his face was blanched, he only had one eye.
His nineteen million kinsmen in amazement looked him o'er.
"What's up?" they cried; he feebly sighed: "I tackled Theodore."

"Down in a swamp I met him. He looked very good to me.
I waded in to pierce his skin and raise a family.
For one long week I did my best; the strife was long and hot.
I bit and chawed and dug and clawed and this is what I got."

"From morn till night in sun and rain we fought in horrid strife.
I tried this prize to colonize; the effort cost my life."
With that the microbe closed his eye and sank to rise no more.
But as he died, again he sighed: "Don't tackle Theodore."

Pat Had 'Em.—A temperance lecturer was demonstrating the evil effects of whiskey. He put a worm into a quantity of whiskey, and the worm was consumed. An Irishman in the audience then yelled out: "Will you please tell me the brand of that whiskey? I've got worms meself."



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A Boston lawyer tells this story on another lawyer named Ames, who was retained as counsel for a man who stepped in a hole in the street and broke his leg. Suit was brought against the city in the sum of one thousand dollars, and Ames won the case. The city appealed to the supreme court, but there also the verdict was in favor of Ames's client.

After settling up the claim, Ames handed his client a silver dollar.

"What is this for?" asked the man.

"That is what is left after taking out my fee, the cost of appeal, and other expenses."

The man regarded the dollar a moment, then looked at Ames.

"What is the matter with this?" he asked. "Is it bad?"—*Lewis A. Wentworth.*

Dangerous Pests.—It is noted by our consuls that the war against mosquitoes is being carried on as energetically abroad as in the United States, due to the recent increase of malaria in many portions of Europe, these insects spreading disease wherever they go.

Italy has for years been the worst sufferer, and an energetic anti-malarial campaign has been under way there for years, bringing about some slight improvement, mainly secured during the last few years.

Germany also has taken up the fight in view of the increase of malarial fever, formerly but little known in the empire, but which has latterly invaded a number of the German cities. The present campaign is being conducted in that scientific and thorough manner so characteristic of the Germans.

Among the sufferers from mosquitoes and malarial fevers is Leipzig, one of the great industrial centers of Germany. Of the steps taken there to exterminate the anopheles mosquito, says the consul in that country, is "an order from the city council notifying all housekeepers in the infected sections of the city to carefully examine their houses or apartments for anopheles or malarial mosquitoes, and to destroy any that may be found.

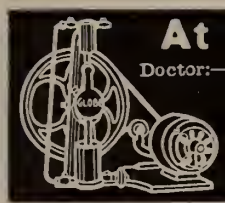
"Every household in the districts concerned has been furnished by the city council with a large circular, which, in addition to information as to the cause and spreading of malaria, contains advice as to the best means of destroying the malaria mosquitoes. Certain dates have been specified between which the houses are to be searched and the mosquitoes destroyed.

"At the expiration of the time specified inspectors appointed by the city council will visit each house and apartment and make careful examinations to see that the work of exterminating the mosquitoes has been properly carried out. Those who fail to comply with the regulations promptly and thoroughly will be subject to a fine of about $7.50." And those who know German methods may be confident that the examination provided for by this order will be rigidly made, and those who are found violating it will be promptly fined.

German scientists and entomologists have been studying plans for the extermination of the mosquitoes, and believe that they have found an effective cure in an African aquatic plant that will kill off the mosquitoes and destroy their breeding places.

The Leipzig plan, it will be seen, is much the same as that which has been tried so successfully in New Orleans with the stegomyia. New Orleans has been equally successful in getting rid of the anopheles mosquito, the cause of malarial fever, without any sepcial exertion on its part in that direction, but chiefly through the splendid work done lately in draining the swamps around the city. This is strikingly shown in the reduction of the mortality from malarial fevers in New Orleans from three to four hundred a year down to twenty-seven last year, making its health record, as far as this disease is concerned, about the best in the south, and almost as good as that of any city in the country.

The After Care of Tuberculosis with Reference to Employment.—H. R. M. Landis, of Philadelphia, says that a most important element in the cure of tuberculosis is the employment of the patient when the process has been arrested. The patient in most cases should not return to his old employment. Neither should he take up an out-door employment that draws severely on his physical energies. The author advocates an organization which has for its object the obtaining of suitable light employment for arrested cases. Such are gardening, light farming, collecting, clerical work, driving, etc. A valuable avenue for women is opened by the establishment of a training school for tuberculosis nursing.—*Medical Record.*



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Brachial Neuralgia and Arm Pains.—Charles L. Dana gives first an anatomical description of the parts concerned. He declares that shoulder pains, if they extend up the supra-acromial nerves, mean involvement mainly of the circumflex; if they extend down, involvement of the radial; and if they extend back, involvement of the collateral muscular nerves going to the scapular region. According to the writer's experience neuralgias are met more often in the better classes than in dispensary or hospital patients. It is safe to say that arm pains are never purely rheumatic unless there exists some objective evidence of myositis, arthritis, or periarthritis. In the diagnosis the most difficult factor is to distinguish between real neuritis of high grade and neuralgia. The writer emphasizes the necessity of rest in these cases.—*Medical Record.*

Dr. Arthur T. Holbrook told this story on his profession, not long ago, at a gathering of the American Medical Association:

"A man by the name of Evans died," he said, "and went to heaven, of course. When he arrived at the pearly gates he said to St. Peter:

"'Well, I'm here.'

"St. Peter looked at him and asked his name. 'John Evans,' was the reply.

"St. Peter looked through the book and shook his head.

"'You don't belong here,' he said, pointing to the exit.

"'But I'm sure I belong here,' said the man.

"'Wait a minute,' said Peter. He looked again, and in the back part of the book found the name.

"'Sure,' said the guardian of the gate, 'you belong here, but you wasn't expected for twenty years. Who's your doctor?"

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In making up the so-called normal saline solution it is of importance to have the percentage of sodium chloride relatively exact, i. e., seven to nine per cent, no more, no less. Ringer, Howell, Loeb and others have shown that a solution as low as six per cent dissolves the red cells and abstracts salts from the tissues and a solution as high as ten per cent causes the cells to shrivel. When normal saline solution is to be given continuously for a long time, calcium and potassium chloride should be added, the former acting as a stimulant to the heart muscle, while the latter is essential for its rhythmical contraction and relaxation.

In my experimental work I have found the following to be the proper percentage, viz.: Calcium chloride, 0.25; potassium chloride, 0.10; sodium chloride, 9.00; sterilized water, 1000 c. c.

Typhoid Carrier Still a Menace.—Mary Mallon, the Irish cook, the most remarkable case of typhoid carrier on record, has now been detained for two years at the Hospital on North Brothers Island by the Health Department, and it would seem to be a necessity that she should thus be quarantined indefinitely, as her release would be a distinct menace to the health of the community. The frequent examinations made show the constant presence of the bacilli in her system, and careful studies by Dr. George A. Soper and others would seem to indicate that they are generated in the gall bladder and thence disseminated. Repeated experiments have been tried to put a stop to this perpetual development of the germs, but with no success whatever. The history of this case is one of the most extraordinary and interesting in the annals of typhoid fever, and it is now about seven years since the woman first came under observation. Twenty-six cases of the disease have been absolutely traced to her, and the total number to which she has given rise is probably very large. The outbreaks of which she was the cause, mostly in suburban communities, were invariably in well-to-do families, where she was employed as cook, and she herself always escaped having the disease.

A Delightful Revelation.

¶ The value of senna as a laxative is well known to the medical profession, but to the physician accustomed to the ordinary senna preparations, the gentle yet efficient action of the pure laxative principles correctly obtained and scientifically combined with a pleasant aromatic syrup of Californian figs is a delightful revelation, and in order that the name of the laxative combination may be more fully descriptive of it, we have added to the name Syrup of Figs "and Elixir of Senna," so that its full title now is "Syrup of Figs and Elixir of Senna."

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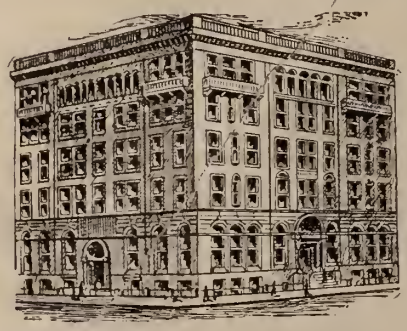
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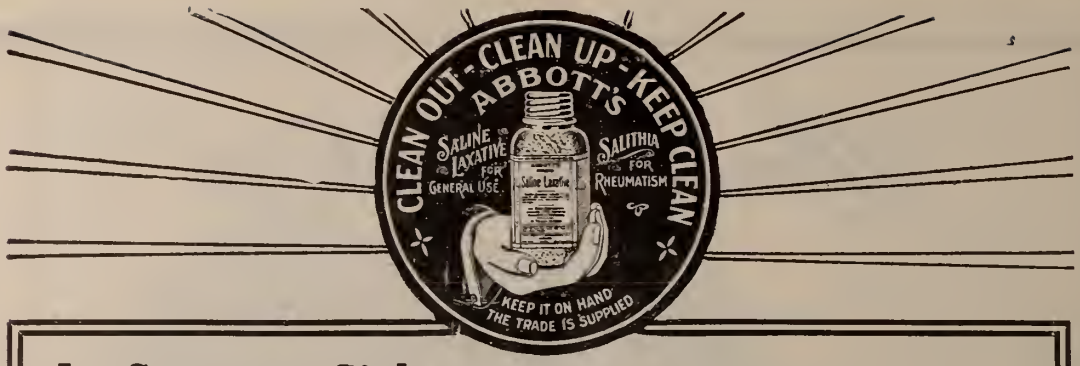
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According to a Bulletin recently issued by the United States Department of Agriculture on the Harmful Effects of Acetanilid, Atipyrine, and Phenacetin there have been reported in Medical Literature between 1884 and 1907, 885 cases of poisoning by these drugs, 26 deaths, and 33 cases of habitual use.

The State Board of Health of Kansas has had a controversy with the Board of Railroad Commissioners regarding the use of the common drinking cup on trains. The Board of Health ordered its removal and the Railroad Commissioners refused to enforce the order. The attorney general has decided the case in favor of the State Board of Health.

Harvard University has announced the establishment of a department in its Medical School exclusively devoted to the subjects of public health and preventive medicine, and the election of Dr. Milton J. Rosenau, now director of the Hygenic Laboratory of the U. S. Public Health and Marine Hospital Service, as professor of hygiene and preventive medicine. He will be at the head of the new department.

SURGICAL SUGGESTIONS.

A FEELING of discomfort in the mouth while eating may be the first signs of a calculus in one of the salivary ducts.

DIVERTICULUM of the bladder, associated with cystitis, may produce symptoms resembling those of prostatic hypertrophy.—*American Journal of Surgery.*

In examining for evidences of hereditary syphilis it is well to remember that the characteristic Hutchinson teeth are the two upper permanent central incisors.—*International Journal of Surgery.*

In cases of hemorrhoids the use of a suppository containing five grains of extract of hamamelis to ten or fifteen grains of cocoa butter, inserted at night, often acts beneficially by allaying irritation and serving as a protective and lubricant during defecation.—*International Journal of Surgery.*

Vermont Medical Monthly.

VOL. XV. AUGUST 15, 1909. NUMBER 8.

ORIGINAL ARTICLES.

HYDROTHERAPY.*

A plea for the study and rational use of water in disease.

BY

J. B. MACDONALD, M. D.,
Concord.

In these days of medical progress when even the dynamic value of an idea in conquering nature and disease is weighed and measured in therapeutic terms, the medical waste-basket is undergoing a searching scrutiny. And from the mass of rubbish accumulated through the ages some things have been drawn forth by the scientific investigator and again proven worthy of the trust and favor of the profession. Of all these perhaps the use of water in the treatment of disease creates the widest interest. The oldest of all remedial measures it has also been until a late day the most neglected and often the most derided by the medical profession. Its practice had fallen for a time into the hands of quacks and "irregulars," and until the results from their empiric exercises forced us to recognize the usefulness of certain of their procedures, we chose to remain virtually aloof from such evil associations. For as a profession, we are too apt to walk rather contentedly in a little lighted circle of prejudices and have to be reminded of what lies without us by specious and clamant exceptions; so that the quack and the "irregulars" with their "Turkish bath parlors" and so-called "water cures" stand in relation to modern hydrotherapy much as Mesmer, Phineas Parker Quimby, Mary Baker Eddy and Christian Science in the pedigree of Psychotherapy, which in many quarters is regarded as the finest offshoot of a common family tree.

Water, properly applied, is a most powerful therapeutic agent, and the results from its judicious usage are often little short of marvellous. Yet it is so flexible an agent that it is capable of evoking many varying and even apparently contradictory effects, and here lies the cause of so many disappointments and failures to obtain expected results, where the physiological action of varying temperatures is not carefully considered, and refinements of technique are neglected. Unlike other remedial agents many distinct elements are involved in its dosage. Each case is a law unto itself as regards the reactive capacity to temperature. By varying the temperature of application, mechanical impact, duration and technique of application, in a given case the action may be stimulant or depressant, sedative or tonic, or it may be chiefly a diaphoretic, diuretic, antipyretic, etc. No other remedy furnishes a wider range of physiologic and therapeutic action.

The term hydrotherapy includes the application of water for remedial purpose in any form internally or externally. The value of irrigations, hpyo- and entero-clyses is well known, but the application of water to the external surface of the body (exclusive of toilet and cleansing purposes), though the most important form of hydric procedure, is still not everywhere understood or studied, nor employed to the extent it might be in general practice.

The basis of such external applications is the physiological action of varying temperatures upon the body, water acting simply as a convenient means for the conveyance of temperature in the simplest and most universal manner. This action is that of an irritant or a thermic stimulus to the cutaneous surfaces and their sensory nervous apparatus, and the result is a change in the local innervation through the ganglionic centres and a reflex or vasomotor influence through the central nervous system. The influence of cutaneous irritants or stimuli upon circulation and respiration and upon tissue change and secretion is a very interesting subject. The cutaneous surface with its sensory nerve terminals may be regarded as a perfect alarm apparatus, not even a pin point of it being left unprovided. The response to sudden stimuli such as cold is instantaneous. There can be no doubt but that the factors which produce arterial "tone," and the peripheral resistance which plays so great a part in maintaining blood pressure and cardiac force are dependent largely upon such impulses from the peripheral nerves to the vaso-motor centre. The shock to the peripheral nerve endings arouses and energizes

*Read before the N. H. State Medical Society.

the nerve centres. The forces which, under vaso-motor influence, produce peripheral resistance lie in the heart and in the muscle cells and elastic fibres of the vessel walls, and in the muscular and elastic elements of the skin whose condition of tension depends largely on temperature. No other agency is capable of rousing these forces to action with greater promptitude and certainty than cutaneous irritants. As to the truth of this statement ask the obstetrician who in the critical moment in the life of an asphyxiated infant employs mechanical irritation in the form of slapping, or thermic irritation by dashes of cold water, or alternate plunging into hot and cold water to stimulate and restore suspended vital activity.

There is a growing conviction that the elastic and muscular coats of the blood vessels have higher functions than that of merely mechanical regulation of calibre, that these muscle cells are capable of rhythmical rather than sustained and tonic contraction and that the phenomenon of reaction is but an expression of enhanced activity of this great "skin heart" as Dr. Woods Hutchison calls it. This rhythmical activity is especially sensitive to cutaneous irritants applied in the form of heat and cold.

It is hard to explain the wonderfully tonic and prolonged effect of a Brand bath in typhoid fever other than by assuming an active rhythmic contractility of the skin vessels, which are capable of containing about 30% of the blood of the body, and which thus relieve the work of the heart and promote elimination and secretion. In the wards of the New Hampshire State Hospital we have demonstrated over and over again that a short cold bath with friction lowers the pulse rate markedly, improving its tone and increasing its tension. I have a chart of one case where a modified cold bath with friction was given regularly once a day. The pulse rate was taken at hourly intervals, before and after the application, and almost without exception the reduction in rate continued for three and four hours after the bath. Such a prolonged improvement in the character of the pulse can hardly be accounted for on any hypothesis granting no more than a passive activity to the cutaneous vessels, next to the heart, the main factors in blood pressure.

Cold applications excite, and warm applications diminish irritability. Cold applied locally over the heart or to the entire body lessens the frequency, increases the force of cardiac contraction, and raises blood pressure. Warm irritants increase the pulse rate and lower the blood pressure. Following warm applications there is a dilatation of the cutaneous vessels because of the muscular and elastic elements of the skin which play the part of a muscular coat to its arterioles and capillaries are relaxed. By surrounding the body with a temperature higher than its own, as in hot water baths, hot air and electric light baths, there is effected an increase in metabolism especially in the breaking down of non-nitrogenous substances. Perspiration is increased. The conductivity of nerves is impeded so that they convey impressions less readily. The effect of prolonged warm applications is relaxing, fatiguing, soporific, while that of cold, especially when combined with sprinkling, showering, or rubbing, is powerfully stimulant, exhilarating and tonic.

"Immediately a cold application is made to the skin we have through the cord and brain centres certain immediate results. We have, first, contraction through the vaso-motor nerves of the superficial vessels of the skin, stimulation of the heart and the force of its contraction. Secondarily, by reaction we have an enlargement of the capillaries of the skin. The rhythmical activity of the peripheral vessels is increased, and the arterial tone improved. We have also as a secondary process of reaction increased metabolism with increase of animal heat. The increase of animal heat we know comes largely from the muscles and glandular organs, and we get through this stimulation by cold of the nerves of the skin a more vigorous and healthy action of the glandular organs of the body including the digestive and secretory organs generally. In the reaction from cold water applications are involved several processes worthy of careful study. One has just been referred to. Another relates to the general equalization of vascular pressure, (relief of passive engorgement) with what may be termed gymnastic exercise of the vascular musculature. Another relates to stimulation of paretic vaso-motor centres, and another to direct stimulation of centres in cord and brain through the sensory neurones whose terminals are in the skin." (Foster).

The deeper respirations which always result from cold applications introduce an increased amount of oxygen into the system, while it has

been demonstrated that the respiratory quotient remains the same; that is, while the amount of oxygen absorbed may be three or four times the usual quantity the amount of carbon dioxide eliminated is proportionate to the oxygen absorbed, showing plainly enough that the increased intake of oxygen is used in the process of metabolism.

In ordinary fevers and toxemic conditions retained excretions and specific toxins cause an increase of the extractives in the blood to several times their normal amount; and the quantity of urine is always diminished. Albert Robin in a series of experiments on typhoid patients demonstrated that the accumulation of wastes in the tissues in that disease was proportionate to the gravity of the case. He found the solid constituents of the urine rose from 48 per thousand in the height of the disease to 60 per thousand in convalescence. The extractives in the normal blood amount to from 4 to 4.5%. In mild cases of fever he found them to be 6.5%, in fatal cases 12.1%. In 1000 analyses on more than 100 cases of typhoid he showed that on an average a typhoid patient who absorbed for each kilogram of weight 5 c. c. of oxygen per minute before a cold bath treatment, increased the amount of oxygen taken up to 6.49 c. c. immediately after the cold bath. The carbon dioxide exhaled increased from 3.77 c. c. to 4.45 c. c., while the urine was augmented in quantity and the urea increased 10% and 20%.

What obtains in typhoid fever is in some measure true of all toxemiæ, and of conditions where as a result of relaxation of the vascular system there exists decreased oxidation and elimination.

Our ideas regarding the uses of hydrotherapy have changed materially within recent years. Formerly we administered a cold application in fevers for anti-thermic effect. Now we administer it for the purpose of obtaining "reaction," and the reduction of fever is but an expression of reaction attained, for cold in itself promotes metabolism and therefore increases animal heat. Our point of attack is the intoxication resulting from infective processes, and from disturbances of metabolism which produce not alone high temperature, but the serious degenerations formerly ascribed wholly to it.

The same principles of treatment by water which yield such brilliant results in acute conditions like typhoid fever, pneumonia and nephritis are also applicable in a modified form to those chronic states in which elimination, nutrition, blood formation and tissue change are disturbed. Our insane hospitals contain hundreds of cases whose morbid mental conditions are the result of toxemia, whether through intoxication arising from evil modes of living, defective gland secretion, auto-intoxication from the intestinal tract, or from renal or hepatic insufficiency. Take, as an instance, melancholia where the disturbance of alimentary, circulatory and excretory systems are most notable. Here the tongue is coated and foul. There is no desire for food. The digestive power of the stomach juices is reduced. The bowels are invariably constipated and the stools are abnormally offensive. The skin is cold and clammy, or hot and dry. Urine is scanty and passed at long intervals. The excretion of urea is deficient, on an average below 200 grs. for the twenty-four hours. The pulse is rapid and irregular in force and rhythm. There is nothing in the whole field of medicine that will assuage the distressing mental pain and confer a mite of comfort upon the patient more promptly than a warm or hot bath, (the former at 98° F. to 100° F. for one-half to one hour, the latter at 105° to 110° F. for ten or fifteen minutes), or a dry or wet pack, general or local, to promote cutaneous hyperemia, warmth, and free perspiration, followed by carefully prescribed cool sponging with brisk rubbing to produce vascular reaction. After such measures it is not uncommon to find an improvement of mental conditions coincident with an increased excretion of urine and urea. It aids in the elimination of waste, and along with diet, saline laxatives, irrigations, tonic and restorative measures is our most powerful auxiliary in effecting organic purification.

In drug intoxications, especially that from opium, the value of hydric procedures cannot be overestimated. During the past two years we have had two such cases in the New Hampshire State Hospital, and in each case the drug was withheld entirely from the day they were admitted. One had a habit of ten years' duration, the other of five years. Yet there were none of the serious symptoms of deprivation, because, as we hold, from the beginning of treatment tonic hydrotherapeutic measures had been applied.

Some of our most striking results have been obtained from a modified form of cold bath with

friction, or the "Brand Bath" as we call it in our wards. In certain cases of acute mania, the excited phases of dementia præcox, and in other toxic insanities, where the physical condition is not yet greatly depreciated, this is our treatment of choice. The patient is first enveloped in a dry blanket pack for one-half to one hour, or a hot spray bath of three to five minutes' duration is given, so that an artificial surface heat is produced. From the spray or pack the patient is then immediately transferred to the tub filled with water at a temperature of 75° to 90° F., according to the patient's condition and reactive capacity. The face is quickly bathed with cold water, and a towel wrung out of cold water wrapped around the head. He is then immersed in the water up to the neck and friction or chafing is begun over the entire body and kept up vigorously while the patient is in the water. At least three nurses are assigned to make friction, two for the upper extremities and trunk, and one for the lower extremities. Friction is of supreme importance to ensure reaction, for without reaction the bath may do more harm than good. As the effect desired in these cases is mainly reflex nervous excitation the duration of the bath is not longer than three to five minutes. At the completion of such a bath the cutaneous surface fairly glows, as constantly recurring contraction and dilation of the vessels is maintained by the termic effect and by the mechanical stimulus of friction. On being removed from the bath the patient is rapidly dried, placed in bed, and covered warmly with blankets. A glass of hot malted milk is given. The relief afforded by this measure is remarkable. The excited, noisy, almost unmanageable patient quiets down, and almost always falls asleep. No one who has not seen an excited acute maniac sleeping quietly for six or seven hours after a bath of three to five minutes' duration thus administered can have any conception of the wondrous change effected. So constantly has sleep followed such treatments in selected cases that in our practice they are generally administered in the evenings in order to secure natural rest for the excited patient, and to promote the comfort of others subject to disurbance by their noisy behavior. Sleep has been produced by this means where large doses of veronal, hyoscin and dormiol have been ineffective. And it has been more natural, more prolonged, and with none of the undesirable after-effects of even the best form of drug hypnotics. We are convinced that under this treatment the general condition of the patients improve, their vital resistance is increased, circulation and glandular activity becomes better and that the assimilation of food and of tonic and alterative drugs is promoted.

In other cases prolonged warm or neutral baths, hot baths of shorter duration, sprays, douches, and packs are powerful eliminants, and have a decidedly soporific influence. In this connection I may mention anemia and chlorosis where often the assimilation of iron is greatly promoted by such measures.

In speaking of these measures I have used the term "cold" loosely for any procedure where the temperature of the medium is below 90° F. The term "cold" thus employed must be understood in a relative sense depending upon the reactive capacity of the patient. The greater the variation of temperature between the water used and the body the greater the thermic irritation; and one should not apply the same degree of temperature to an anemic, neurasthenic woman that may be found useful in the case of a strong, active maniac, any more than you would give the same dose of strychnia to an infant that acts as a stimulant for the adult. When a hydrotherapeutic treatment is ordered the temperature of the water and the technique of application should be prescribed with the same care and consideration as in the ordering of drugs. Nerve stimulus and not abstraction of heat is the end to be attained in these tonic measures, and while in one case simple ablutions of successive parts with water at 80° F. with friction, may be all that the reactive capacity of the patient will stand, in others immersion may be essential to secure reaction. In every case it is well to begin with gentle measures, and as the general tone of the system improves advance to more vigorous procedures. Cold applications to fulfill their function should be of short duration, and always accompanied by friction. They should be preceded by some measure for the production of surface heat, and the temperature of application carefully graded according to the amount of shock the patient can safely bear.

I am sure that everyone of us meets with many cases where in addition to drugs and general hygienic treatment hydrotherapeutic procedures may be used to advantage. If the stranded wrecks in our insane hospitals can be benefitted,

in some cases cured, by the aid of such measures, how much may be accomplished before the system has broken down to the degree that even the mind is deranged. Simple as these procedures may appear, however, a careful study of the physiological principles involved, and an exact technique of application is necessary, else the clinical results cannot fail to be disappointing and more often harmful.

DISCUSSION.

Dr. C. R. Walker, Concord.—It seems to me a paper of this kind in general practice is indeed the most valuable and helpful one. Hydrotherapy has been in vogue, if we may read the history aright, from the very time when history began to be written in regard to the methods of life and mode of living among all nations. The factors of heat and cold were recognized. We have of course no idea that the ancients knew just why heat and cold affected the body so, but surely they did use baths. All savage nations have used baths, and water has been used in all forms, not with the refinement that our modern time enables us to use it, but practically to give the same effect. Water, for its therapeutic use, demands time of the practitioner and personal attention in order to get the best results. I may be pardoned perhaps if I read two or three extracts which I have made in order to emphasize what the doctor has already brought out as to what can be accomplished:

The simplicity of this agent and neglect of precision in its application have been the chief obstacles in the way of its more universal acceptance. At the risk of not being understood, it has occurred to me that sometimes the new ideas which come up, if we have used them in some special case, may suggest some other idea. I had a case of sepsis which Dr. Macdonald was kind enough to see with me. With the double injection tube, the Kemp tube, this patient was enabled to be made comfortable, the restlessness was diminished, and quiet was produced, by the frequent re-connection of the tube. Gallons of water were run through this tube and the lower bowel was irrigated. I simply speak of it as one special matter. It is the kind of a case that may occur to some of you and I feel positive that you will give the patient relief by the constant inflow and outflow without any discomfort whatever.

Dr. F. N. Rogers, Manchester.—This subject has been well covered by Dr. Macdonald. It is more than interesting to me and Dr. Macdonald has brought out the key-note of the paper. The necessary thing to be brought about by the application of water is reaction, and although it is considered somewhat dangerous, yet if this reaction is not brought about the hydrotherapy measures may prove futile.

In the past year we had in Manchester an epidemic of typhoid fever and two of the thirty cases which I had under my care would not bear the cold baths in any way. Instead of lowering the temperature it raised it and the patient got cyanotic after the treatment. The cold bath had to be discontinued; simple friction baths, distributing the blood, stimulated the skin and promoted the evaporation of perspiration. There is just one case I can think of that was interesting to me. I had a case of a business man who had acute alcoholism. He wanted to get back to work the next morning. I knew he could not but told him I would get him out of it as soon as possible, and started in with as hot a bath as he could stand. I knew it would weaken him a good deal, in fact I wanted to. After using a good deal of friction and giving a solution of sulphate, he got so weak that he dropped off to sleep. I had to give him a hypodermic of strychnine before I dared to leave him, but the next morning he was pretty near well and most ready to go to work. Dr. Macdonald mentioned the fact of the application of water to the skin producing sleep. I think that is very good in all fevers from alcohol or disease.

Dr. H. W. N. Bennett, Manchester.—I will speak of an incident which occurred in the Rhode Island Hospital. It was a case of tubercular trouble. The parents refused to have the leg amputated. They had consented to the entire removal of the bones of the leg, the only thing to be done, but this did not reach the seat of the disease. It was a pitiful case. The entire leg was swollen several times its natural size and the skin was almost on the point of breaking, and there were a dozen or fifteen places through which the pus exuded. It was dressed about three times a day and it was pitiful to hear him cry, even under the slightest movement. You could not do a decent dressing on the boy. Finally it was considered that nothing could be done to save his life, and it was only a case of making it as painless as possible for him during his last days. So we rigged up an apparatus in a bath tub and immersed the boy to his neck. He stayed there under a nurse's care a day and a night. The temperature was practically that of the body, as near as we could get it by the thermometer. Nobody expected the boy would live. We thought it would enable the pus to get out of the wounds and it would be more comfortable for him. To our surprise the boy picked up immediately and began to gain, and finally in about eight days Dr. Mitchell said, "I believe that boy is going to live. I am going to see his parents and try and get permission for amputation." It was a hip joint operation and the boy had improved to the extent that it was possible to do the operation after that. Of course he collapsed and required care for forty-eight hours, but he did survive, and when I came back from my vacation in a little over a month, the first thing I saw was the boy coming into the ward on a wooden crutch and one leg.

Dr. F. L. Gerald.—Something like eight years ago a young man came to me on crutches. His lower extremities were paralyzed. He had typhoid fever in the hospital at Springfield, Mass., and two young physicians had the care of him. They packed the whole length of his spine in ice. When he came out of the hospital he was paralyzed, and it was three or four years before he recovered. So it seems to me that brains and common sense should back up this treatment with water as well as medicine.

Dr. Macdonald.—It seems at times that the profession, while accepting the principles of physical therapy, has been slow to put them into practice. From this has sprung a crop of evils. Such negligence on our part has I believe been largely responsible for the birth of at least one district school of medicine with nothing on earth in its justification but the more thorough study of the application of

passive exercises and manipulations. The use of water in treatment is in like measure somewhat neglected. Some hesitate to apply what they believe to be rather heroic treatment. Others have a prejudice against it, having perhaps known evil results from careless prescribing and imperfect technique. Again our schools have not given much attention to physical therapy. Yet it is a field that will repay investigation. True, as Dr. Gerald remarked "brains and common sense should back up the treatment," and I would add the use of them should precede the treatment. The possession of this essential equipment should at least ensure a knowledge of the effects of temperature and of different methods of technique before the application of an agent so powerful of action that serious harm may result if it is carried on unintelligently.

ACUTE TRAUMATIC TETANUS TREATED BY MAGNESIUM SULPHATE.

With report of a case in the treatment of which injections of an aqueous 25 percent solution of magnesium sulphate were made in the spinal subarachnoid space; with recovery.

BY

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Our knowledge concerning this acute infectious disease is incomplete. Numerous are the features of this intoxication that call for elucidation. We know that the disease occurs sporadically, endemically,[1] and epidemically; that there is no age, sex, or race that is immune. It has occurred in Iceland. It is very prevalent in the tropics. In reference to race incidence, it must be stated that it is considered by most observers to be more frequent in the darkskinned races than in the white race, even in the same country. The disease has a variable period of incubation; on an average, in the acute form from five to ten days elapse between inoculation and the appearance of the symptom-complex of this condition. A short period of incubation implies intensity and virulency of infection, and is of bad prognostic omen. Though it is not believed that one attack confers immunity against other attacks, cases of second attacks are not known.[7]

Though this disease is comparatively rare, it occurs in such unforeseen[8] conditions, and usually has such a dramatic outbreak and such a fatal termination, that it is of interest to all medical practitioners. It has complicated burns.[2] It has complicated frost-bites. It has complicated horse bites. It has followed such insignificant trauma as is associated with the hypodermic injections of quinine,[3] with the subcutaneous administration of antiplague serum,[4] with the application, for hemostatic purposes, of gelatine to bleeding surfaces, with the subcutaneous employment, for hemostatic or other purposes, of this same agent,[5] with the operation of vaccination,[6] or circumcision or the removal of adenoids. It has followed the employment in operative procedures of contaminated catgut, it has followed contused wounds of the outer canthus of the eye,[9] and other wounds so insignificant that at the time of infliction they passed unnoticed, or if noticed, they were completely forgotten at the time of the outbreak of the disease. The disease may occur after child-birth, and may occur after abortion, accidental or induced.[10] As a result of Fourth of July injuries in 1903, there were 406 deaths from tetanus as compared with 60 from other sources[11].

Since the discovery by Nicolaier, in 1885, of the bacillus tetani and its growth, in pure cultures, by Kitasato, in 1889, it has been amply demonstrated that all clinical forms of tetanus; cephalic tetanus[12], tetanus neonatorum[13], puerperal tetanus[14], post-operative tetanus[15], traumatic tetanus, are due to the bacillus tetani. The inoculation of the offending germ occurs through an abrasion or through a wound of a cutaneous, or a mucous surface. Tetanus is an implantation infection. In the lower animals, all experimental efforts to produce the disease, through either the respiratory or the alimentary tract, have proved unsuccessful. In man, as far as we know, the same condition obtains. No case is on record of the disease occurring in man, as a result of infection taking place by inhalation or ingestion of the tetanus bacilli. The bacillus, though not a pyogenetic germ, is not hindered in its development by the presence of the germs of suppuration. The latter, in fact, create conditions favorable for its growth [16]. As a wound complication, the frequency of tetanus has markedly lessened since the generalization of the antiseptic treatment of wounds.

The disease has no characteristic pathological anatomical changes (that is, none have to this date been determined, or rather demonstrated).

No constant changes have been found either in the peripheral nerves or in the cerebrospinal nervous system.

The diagnosis offers no difficulties. In all forms of the disease, the chronic cephalic form excepted, the mortality is appalling. In an editorial in the Journal of the American Medical Association[16a] it is stated that "the usual rate of mortality for traumatic tetanus is probably about 80 percent." Sewart[17] says that "the mortality is greater in the puerperal type, extremely few cases recovering. It is said that recovery is almost unknown in tetanus after abortion." This high mortality is due to the fact that the measures actually employed in the treatment of this disease are ineffective. It is notorious that the drug treatment of this disease has been without efficacy. Many are the medicinal agents that have been employed in the treatment of tetanus. The indication for their employment has been found chiefly in the controlling or depressing influence which they exert upon muscular action. Opium[18], carbolic acid[19], physostigmine[20], the bromides and chloral hydrate[21], can be mentioned among the drugs that have been, and still are, employed extensively in the treatment of this disease. These drugs meet more or less successfully isolated symptoms of this disease. Recoveries from tetanus infection are reported in which the medical attendants attribute the happy termination of the disease to the employment of one or more of the aforementioned drugs. Apparently, none of these drugs exercise much influence upon the course of severe cases. Very mild cases recover with, perhaps despite, any of the various forms of treatment.

For prophylactic and for curative purposes, antitetanic serum is widely employed. Different routes are employed to introduce the liquid serum into the human organism. The injections of the serum may be subcutaneous, intramuscular[21a], intravenous[22], intraneural[23], intracerebral (24 and 30a, Girard), or intraspinal[25]. In the intraspinal method, some clinicians introduce the antitetanine in the epidural space[26]; the majority, however, make the injection in the spinal subarachnoid space. In all wounds of a suspicious nature, such as those in which there is much contusion of tissue, such as are soiled with street-dirt or garden-earth, in all gunshot wounds, in wounds occurring in individuals who work around horses, in horse-shoeing establishments, or in stables, it is the practice of most surgeons to inject for prophylactic purposes, in the wounded individual from 2,000 to 3,000 units of antitetanic serum. The sooner after the injury the serum is injected, the greater is its protective power, the greater is its prophylactic potency. For the last 10 years, in all individuals having wounds of the nature described above, I have injected for prophylactic purposes invariably, antitetanic serum. I have never seen a case of tetanus occur after attempted immunization. It must be stated, however, that, lately, the immunizing properties of antitetanic serum have been disputed. Some cases of tetanus have been reported which show that antitetanic serum is not invariably successful in preventing the outbreak of the disease. Jacobson and Pease ([21]a) were able to collect six cases occurring in the United States and Canada, in which, despite the previous prophylactic use of antitetanic serum, tetanus developed. In all but one of these cases, recovery ensued. Reynier[27], was able to collect from the literature, thirty-one other cases of tetanus that had developed subsequently to attempted immunization by prophylactic injections of antitetanic serum. To these, he added one personal case. In this series though the antitetanic serum did not prevent the disease, it, apparently, in most of the cases, attenuated the symptoms and positively lessened the mortality rate. In the lower animals, the immunizing properties of antitetanic serum have been repeatedly demonstrated. In laboratory experiments, the serum being usually injected either simultaneously with, or immediately after the injection of the toxin, neutralization is easily effected and tetanus does not develop. Owing to the employment as a preventive of tetanus of antitetanic serum, by veterinarians, this disease as a wound complication after castration of horses has almost completely disappeared. In the human subject, the immunizing properties of antitetanic serum are not as universally acknowledged.

As in immunizing doses, antitetanic serum is perfectly innocuous, we urge, until more light be thrown on the subject, that it be employed as a prophylactic agent against tetanus. Schwartz ([30]a) in 300 injections noticed no other accident but an occasional erythema (5 cases). In the opinion of many clinicians, its value as a pre-

ventive of the disease is established[30] . Delbet, Demoulin[27], and Kummer[26], and innumerable other observers, have never seen tetanus develop in a patient to whom, shortly after the infliction of his injury, an immunizing dose of antitetanic serum had been administered. It must be stated, however, that the value of antitetanic serum, as a prophylactic agent, is based on belief, on clinical observation, and not on scientifically demonstrated facts. In the Paris hospitals[27] prophylactic injections of antitetanic serum were not employed between the years of 1886-1890 inclusive. During this period there were in the city of Paris 135 deaths from tetanus. During the years 1901-1905, inclusive, the prophylactic injections were employed in nearly all, if not all, the Parisian hospitals. The serum during this same period was also extensively employed as a curative agent. During the years 1901-1905 inclusive there occurred in Paris, 153 deaths from tetanus.

In the prophylactic treatment of tetanus, in addition to the administration of antitetanic serum, all suspicious (suspicious from the standpoint of tetanus development) wounds should be subjected to vigorous and thorough antiseptic treatment. Lowering of vitality by bruising, and incorporation of foreign material, favor but are not essential for the development of tetanus. Like all sporulated microbes, the bacillus of Nicolaier offers great resistance to the action of antiseptics.

The following table is taken from an article by Scherck[29]. It constitutes quite a forcible plea for the prophylactic employment of antitetanic serum.

Cases of Fourth of July injuries treated in the city dispensaries of St. Louis:

Years.	No. case	Antitetanic serum	Death from tetanus
1903	56	no	16
1904	37	yes	none
1905	84	yes	none
1906	170	yes	none

In the treatment of numerous cases of tetanus occurring in the human subject, antitetanic serum has been employed. In many cases thus treated, recovery ensued. It is conceded, however, that in the great majority of cases in which this agent has been used, whatever may have been the route of introduction of the serum into the human system, the results have been disappointing. The cases have terminated fatally, not on account of the administration of antitetanic serum, but because of the inefficacy of the latter as a curative agent for tetanus. So extremely unsatisfactory have been the results attending its use, that though still extensively employed, it is regarded as inefficacious by all, being employed for want of a better agent. The serum exerts but little influence on the course of the malady, and despite its use, the large majority of cases result in death.

Jacobson and Pease[21a] say, "It is apparent that after tetanus is fully established, serum therapy, however administered, promises but little as a curative agent." In a discussion befor the Société de Chirurgie de Paris[27], in which most of those present participated, the opinion was general that, as a curative agent for tetanus, antitetanic serum in the human subject is of doubtful efficacy. Calmette, himself, expresses the opinion that antitetanic serum has no curative power, but that in chronic tetanus, it markedly shortens the duration of the illness. The report of a case, in which a comparatively new mode of treatment has been employed with success, finds its justification in the fact that in the present state of our knowledge all forms of treatment, in this disease, are extremely unsatisfactory.

Mr. Otto Copeck, 17 years of age, Bohemian by birth, was admitted to the West Side Hospital on October 22, 1908. Eight days previous to admission he had stepped upon an old, rusty horseshoe nail, thereby sustaining a punctured wound of the left foot. Though no attempt at disinfection had been made, this punctured wound, about an inch in depth, had by the time of admission, healed by first intention. Two days before admission, patient suffered from general malaise. On October 21st, neck began to feel stiff and sore, and patient began to experience some difficulty in opening his mouth. On the morning of October 22nd, Dr. Vasumpaur was called, examined the patient, and made a diagnosis of acute traumatic tetanus. He gave a subcutaneous injection of 2,500 units of antitetanic serum, and ordered that an ambulance be called, and that the patient be conveyed to the hospital and placed under my care. When I first saw the case, the manifestations of the disease were so classical that the diagnosis of tetanus was self-evident. There were present trismus,

retraction of the head, marked rigidity of the cervical, thoracic, and abdominal muscles, opisthotonos, etc. The angles of the mouth were drawn outward and downward, the upper lip firmly pressed against the teeth, producing the facial expression which is almost invariably present in this disease. The voice was feeble. Slight disturbance of the patient, as by loud talking, opening and closure of the door, etc., would excite convulsive seizures of about 10 seconds' duration. The patient remained in the hospital 28 days. The period of convalescence began on the 10th day after admission to the hospital and was uneventful. His treatment after the first ten days consisted merely of careful nursing. During the first eight days of the active stage of the disease, patient suffered from retention of the urine. The application of fomentations to the hypogastrium having failed to relieve the condition, he was catheterized three times daily from October 22d to November 2d. No vesical disturbance resulted. During this same period patient was obstinately constipated. Cathartics per mouth and rectal enemata being without influence, resort was had to the subcutaneous administration of physostigmine salicylate in doses of gr. 1-100, and relief was thereby obtained. In the acute stage of the disease, two such doses were taken. In the first few days, attempts to give enemata would provoke convulsive seizures.

From October 22d to November 2d, inclusive, patient's diet was wholly liquid. On the evening of November 6th, he was started on semi-solid food. On the 19th of November he was discharged. During the active stage of his illness, our patient received, to combat insomnia, an occasional dose of morphine. On admission into the hospital, 4,500 units of antitetanic serum were injected in the spinal subarachnoid space, 1,500 units subcutaneously around the left sciatic nerve, just beneath the gluteal fold, 1,500 units in the region of the anterior crural nerve, about an inch below Poupart's ligament. On October 23d, 7,500 units of serum were injected subcutaneously. On October 24th, 6,000 units were introduced in the spinal subarachnoid space. On October 25th, 6,000 units were injected in the subarachnoid space, 1,500 units in the left foot, in the region of the wound of inoculation, and the same amount around the left sciatic nerve. On October 26th, 6,000 units were injected in the subarachnoid space, and 1,500 units subcutaneously around the left sciatic nerve. On October 28th, 4,500 units were given subarachnoidally, 1,500 units in the left foot. On October 30th, again 6,000 units were injected into the spinal subarachnoid space, and 3,000 units subcutaneously.

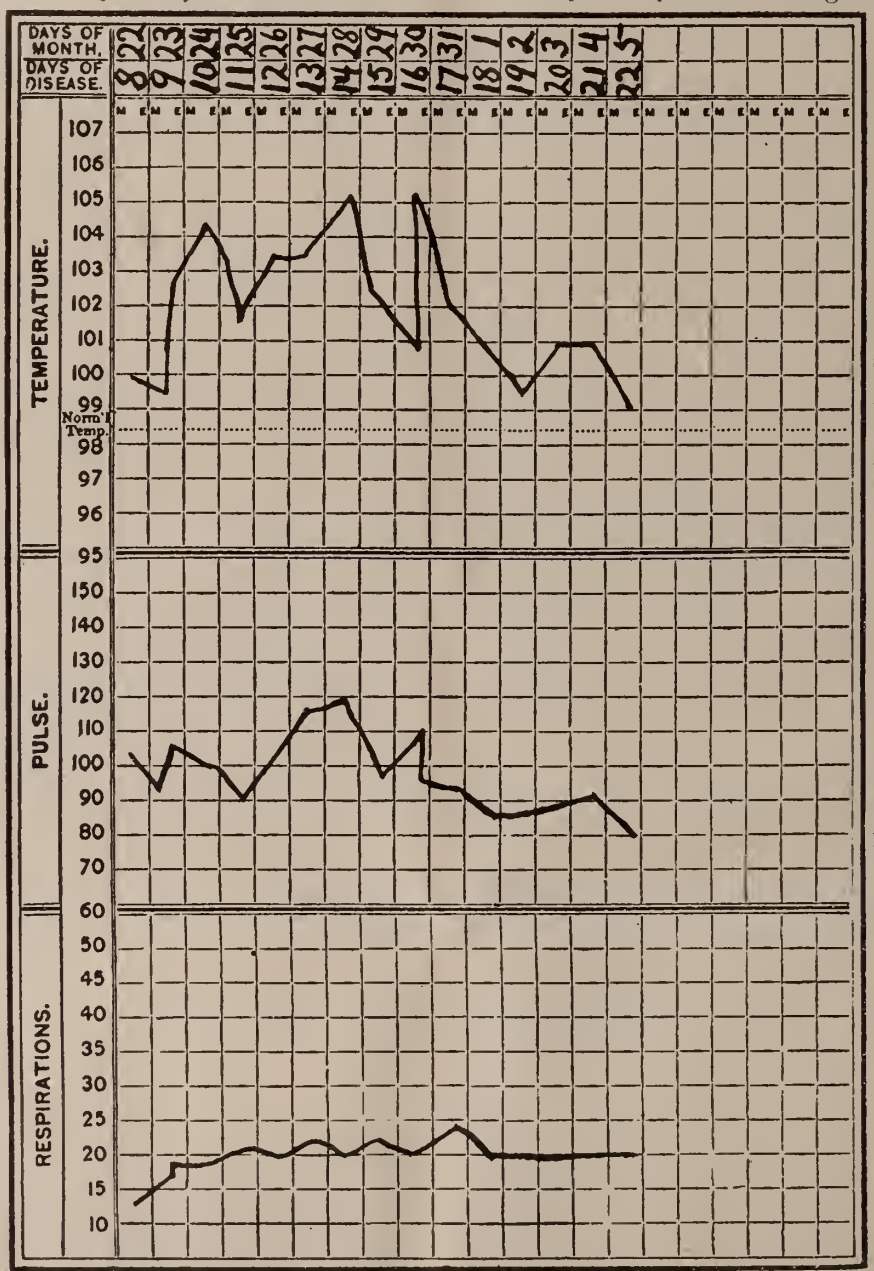
All the injections in the subarachnoid space were made either through the interspace between the spinous processes of the 3d and 4th lumbar vertebrae, or through that between the 4th and 5th lumbar vertebrae. For these injections, as well as for those of the aqueous solution of magnesium sulphate, anesthesia was not used. Anesthesia is not necessary.

General anesthesia is decidedly harmful in these cases. It has determined deaths. Five injections, each 5 c.c., of an aqueous 25 per cent solution of magnesium sulphate, were introduced into the spinal subarachnoid space. The path of injection was the interspace between the spinous processes of the 4th and 5th lumbar vertebrae. The needle was inserted about 2cm. to the side of the medium line, on a level with an imaginary line extending between the highest point of each iliac crest. None of the solution was injected until a few drops of clear nonblood-stained cerebrospinal fluid had escaped.

The magnesium sulphate injections were made on the 23d, 25th, 26th, 28th, and 30th of October. Each injection was followed by marked lessening of muscular rigidity and noticeable improvement in the patient's general condition. Upon reappearance of the symptoms to an extreme degree, the injections would be repeated. After the first injection, the rigidity of the lower limbs never returned to any but a slight degree. I cannot but be of the opinion that the magnesium sulphate was a contributory factor to the patient's recovery.

Previous to our employment of magnesium sulphate, it had been used by other clinicians. Their cases follow. In some of these cases, death occurred; in others, recovery followed. The cases as yet are too few in number for any definite opinion to be expressed as to its value. A more exact dosage must be determined. Greater proficiency in administering must be obtained. The results, however, have been sufficiently encouraging to warrant, in fact, to demand, further study of the subject. The experimental work on this subject has been done

chiefly, almost wholly, by Meltzer & Auer[31]. They determined that intraspinal injections of magnesium salts are capable of abolishing completely in monkeys, at least temporarily, both tonic and clonic tetanic contractions. Clinically experience seems to partially bear out the further statement of these investigators that intraspinal injections of magnesium sulphate in doses which do not affect the respiratory center or other vital functions, are capable of abolishing completely all clonic convulsions and tonic contractions in cases of tetanus, occurring in the human subject. The relaxing effects of the injections may last 24 hours or longer. In the case which I report, none of the vital functions were influenced by the intraspinal injections of magnesium sulphate.



Case of Tetanus—Mr. Copeck—Dr. Heineck's Case.

In some parts of the body such as in the lower extremities, the muscular relaxation following upon the injections was complete. In other portions, such as the mandibular, facial, or cervical muscles, the rigidity was very much

lessened, but it was not completely overcome. Was it due to insufficient dosage, I am unable to state. Appended to the article is a temperature, pulse, and respiratory chart, in the perusal of which it will be seen that the injections at times were followed by an elevation of temperature. This has been noted by other observers. In Miller's[33] case, the injections determined a profuse secretion of mucus, bronchorrhea, at times severe enough to embarrass respiration, but easily controlled by atropine. Was there a relation of cause and effect between the injections and the elevation of temperature? This must also be decided by further study of the subject. Meltzer and Auer[32] have determined that when administered by the intravenous route, the magnesium salts are very toxic, and that even small doses completely inhibit the respiration. Therefore for the administration of these salts, this route, the intravenous route, should never be employed. We employed the agent only in the shape of injections in the spinal subarachnoid space.

In all of the tabulated cases, the magnesium sulphate was injected in the subarachnoid space. The solution has also been used subcutaneously in the following three cases.

Lyon[35] reports the following case: Male, 7 years, stepped on a nail which entered left foot after perforating sole of his shoe. It barely penetrated the skin. Wound scarcely noticeable. Eight days later, complained of stiffness of foot and of leg. Convulsions on the 9th day. On the 11th day, the jaws were set and almost all of his muscles were rigid. The wound was opened and treated with peroxide of hydrogen and tincture of iodine. Morphine, choloral and bromides partially controlled the convulsions. On the 12th day, 2 drachms of magnesium sulphate in 4 oz. of distilled water, were injected under the skin of the abdomen. At end of 2 hours, jaws could be opened 2 cm. Muscles were markedly relaxed. On the 13th, 14th, 17th and 19th days, the magnesium sulphate injection was repeated. The convulsions had become infrequent and mild. Twice there was bronchorrhea. A vesicular eruption covering the whole body appeared on the 14th day. The vesicles were pin-head size and were filled with a clear fluid. In a week, these dried up and disappeared with exfoliation of the epidermis. Digitalis necessary to improve heart action after first week. During the patient's convalescence, tonics were given for the anemia. Able to sit up on the 30th day. Walked as usual in about 10 days more.

Greeley (36) employed, with success, magnesium sulphate in aqueous solution in two cases of tetanus. As his mode of administration was the subcutaneous, we will briefly mention and not discuss them. The first case occurred in a boy, 2 years old. The child had stepped on an old garden rake and lacerated the web between the great and the adjoining toe of the left foot. After an incubation period of 10 days, the symptoms appeared. Greeley administered 7,500 units of antitetanic serum. In addition, every 2 hours, 5 grains each of chloral hydrate and of potassium bromide were administered. By hypodermoclysis one pint of distilled water containing 2 drachms of magnesium sulphate were introduced into the organism. This was repeated on the next day. Recovery followed.

Greeley's other case was one of chronic tetanus. Four weeks elapsed between the inoculation and the outbreak of the symptoms. By hypodermoclysis, 3 drachms of magnesium sulphate dissolved in a pint of distilled water were introduced into the organism. Recovery ensued.

Wm. Hessert[34] a few weeks ago showed to the Chicago Medical Society a case of acute tetanus successfully treated with subarachnoidean injections of an aqueous 25 per cent solution of magnesium sulphate.

We cannot, and we are unwilling to, make any statement as to the value of magnesium sulphate as a therapeutic agent in the treatment of tetanus. The cases in which this agent has been used, are, as yet, too few in number to allow the expression of an authoritative opinion. Further laboratory experiments and numerous clinical reports are needed. The animal experiments conducted by Cruveilhier[37] are too few to be conclusive. His findings are contradicted by clinical observers. We would refer the reader to appended tables. The faith which Cruveilhier reposes in antitetanic serum as a curative agent is not warranted by the results that this agent has yielded.

We used magnesium sulphate, in the method stated above, in our case, and the results were so surprising and so satisfactory that we feel justified in urging its use in tetanus. It is important that the utility and the value of this drug as an agent to control the tonic and clonic

muscular contractions so characteristic of this disease be exactly determined. Its value must be decided by the combined experience of clinicians the world over.

HEINECK: ACUTE TRAUMATIC TETANUS.

Cases of Tetanus in the Treatment of which Subarachnoid Injections of an Aqueous Solution of Magnesium Sulphate have been Employed.

1. Blake, Jos. A. The use of magnesium sulphate in the production of anaesthesia and in the treatment of tetanus. Surgery, Gynecol. and Obst., Chicago, 1906, vol. ii, p. 541.

Male, 15 years, 115 pounds.

Period of incubation.—7 days. Previous immunization.—None. Nature of wound.—Crushed first three fingers of left hand.

Other treatment.—Antiseptic disinfection of wound. On 3rd day of disease (10th of injury) 40 cm. of antitetanic serum injected in spinal cord between 4th and 5th cervical vertebrae. 20 c. c. injected in median cephalic vein. On night of same day 20 c. c. injected in median basilic vein. On 11th day after injury, 35 c. c. of antitetanine serum injected in spinal canal by lumbar puncture. Chloral hydrate and morphine given when patient not under the effect of magnesium sulphate.

Magnesium sulphate treatment.—On the 12th day after injury intra-spinal injection of 4.5 c. c. of magnesium sulphate (25 in 100 of water). 33 hours later repeated injection. 37½ hours later intra-spinal injection 8 c. c. of a 12½ percent solution of magnesium sulphate. 27 hours later repeated above injection. Six days after repeated same injection.

Result.—Recovery.

Comments.—Injections have a marked effect in restraining the convulsions and relieving pain, thereby conserving strength and preventing excessive metabolism and heat production.

2. Markoe, F. H. Reference same as case 1, p. 549.

Male, 4 years, 40 pounds.

Period of incubation.—7 days. Previous immunization.—None. Nature of wound.—Sloughing wound of skin and subcutaneous tissue of the right leg.

Other treatment.—Four injections each of five c. c. of antitetanine serum were injected into buttock, the external jugular vein, the spinal canal, and back respectively. Occasional doses of morphine and chloral.

Magnesium sulphate treatment.—1.5 c. c. of a 25 percent solution of magnesium sulphate were slowly injected into the subarachnoid space.

Result.—Died 28 hours after 1st symptom of disease appeared.

Comments.—Death cannot be attributed in the slightest degree to the magnesium sulphate. On autopsy cultures of tetanus bacillus were obtained from the wound, spleen, and heart blood, showing a marked tetanus bacteriaemia.

3. Logan, Samuel. The treatment of tetanus by intra-spinal injections of magnesium sulphate for the control of convulsions. Jour. A. M. A., 1906, vol. xlvi, p. 1502.

Male, 11 years, 80 pounds.

Period of incubation.—8 days. Previous immunization.—None. Nature of wound.—Gunshot wound of hand with old toy pistol loaded with blank cartridge.

Other treatment.—Simple cleansing of wound after development of the disease. On day of admission 50 c. c. of antitetanic serum injected intraspinally. Chloral hydrate, gr. 15, sodium bromide, gr. 30, every 4 hours. On 3rd day after admission 10 c. c. antitetanic serum injected in each brachial plexus, in each sciatic nerve, and into the tissues around wound, in all 50 c. c.

Magnesium sulphate treatment.—On 3rd day after admission general anaesthesia. 4 c. c. of a 25 percent solution of magnesium sulphate injected in spinal canal by lumbar puncture. On 4th day again gave patient general anaesthesia and injected in subarachnoid space by lumbar puncture 50 minims of 25 p. c. sol. magnesium sulphate.

Result.—Death 40 hours and 50 min. after first injection of magnesium sulphate. Heart failed before respirations affected.

Comments.—Temperature post-mortem 108.2 F. per rectum. Complete cessation of muscular convulsions following introduction of magnesium sulphate.

4. Logan, Samuel. Reference same as above.

Female, 24 years.

Period of incubation.—17 days. Previous immunization.—None. Nature of wound.—Vaccination.

Other treatment.—100 c. c. of antitetanic serum injected subcutaneously. 30 hours after appearance of first symptom, wide excision of vaccination wound, and dusting of surface with dried antitetanine serum.

Magnesium sulphate treatment.—30 hours after first symptoms were noticed 4 c. c. of a sterile 25 percent solution of magnesium sulphate were injected into spinal subarachnoid space by lumbar puncture. Local anaesthetic employed. 17½ hours later injection was repeated.

Result.—Death 30 hours after appearance of first symptoms.

Comments.—No good resulted from the use of the magnesium sulphate solution. Patient was moribund when second injection of magnesium sulphate was made.

5. Franke, Margan. Ein Fall von tetanus behandelt mit intra duralem injectionen von magnesium sulphuricum. Zentral. fuer Innere Medicin, 1907, vol. xxviii, p. 344.

Male, 32 years.

Period of incubation.—12 days. Pevious immunization.—None. Nature of wound.—Wound of the middle finger.

Other treatment.—Energetic antiseptic handling of wound is recommended by this author. Amputation of finger. Chloral hydrate, gr. 30 per rectum daily.

Magnesium sulphate treatment.—19 days after infliction of injury, intradural injection of 1 c. c. of sterilized 25 percent solution of magnesium sulphate. 5 days after above intradural injection of 2 c. c. of same solution. 4 days later repeated same injection. Injecting needle broke in tissues. Removed by operation.

Result.—Recovery.

Comments.—Franke noticed after each injection of magnesium sulphate that there was a lessening of contracture, also noticed that the injections exerted a beneficial action on the muscular convulsions. Sleep was better. Nourishment possible.

6. Robinson, G. Canby. Treatment of tetanus by intraspinal injections of magnesium sulphate. Jour. Am. Med. Assn., 1907, vol. xlix, p. 493.

Male, 11 years, 67½ pounds.

Nature of wound.—Contusion of scalp. Previous immunization.—None. Played considerably around stable.

Other treatment.—Excised supposed wound of entrance. Chloral hydrate, gr. 30, sodium bromide, gr. 60, every 24 hours for the first two weeks.

Magnesium sulphate treatment.—On the 11th day of the disease patient was anaesthetized. Ethyl chloride used as a general anaesthetic. 3 c. c. of a 25 percent solution of magnesium sulphate injected in subarachnoid space. On the next day repeated injection using 3½ c. c. On 15th day of disease injected in same locality 4 c. c. of same solution.

Result.—Recovery.

Comments.—Author states that the intraspinal injections of magnesium sulphate produced marked lessening of the very severe symptoms for a number of hours. The muscular rigidity was never so severe after each injection as it had been before.

7. Meltzer, S. J., and Auer, Jno. The Journal of Experimental Medicine, 1906, vol. vii, p. 705.

Male, 35 years.

Period of incubation.—4 days. Nature of wound.—Insignificant wound of foot which healed rapidly.

Other treatment.—Large doses of antitetanine serum and sedatives gave no relief. 2 hours before death, an intravenous injection of antitoxine serum was given.

Magnesium sulphate treatment.—One intraspinal injection of magnesium sulphate 1 c. c. to every 18 pounds of body weight.

Result.—Death 5 hours after injection of magnesium sulphate solution in subarachnoid space.

Comments.—Anaesthetizing and relaxing effect complete. Respiration good to end.

8. Miller, Robert T. Treatment of tetanus with subarachnoid injections of magnesium sulphate. The Am. Jour. of the Med. Sciences, 1908, vol. cxxxvi, p. 781.

Male, 7 years, 60 pounds.

Period of incubation.—7 days. Previous immunization.—None. Nature of wound.—Lacerated wound of left hand.

Other treatment.—Antitoxin daily for 14 doses varying from 1,500 to 7,000 units. Sedatives for a short time. Copious saline enemas and infusion.

Magnesium sulphate treatment.—11 lumbar punctures made within 13 days. Approximately 2.5 c. c. of a 25 percent solution of magnesium sulphate being injected into the meninges at each puncture.

Result.—Recovery.

Comments.—"Of the value of the treatment by magnesium sulphate, no one who witnessed this case has any doubt." The muscular paralysis following each injection lasted from 18 to 29 hours. It involved all muscles, except those of head, neck, and diaphragm. The injections were followed several times by respiratory collapse lasting 11 to 14 hours and the pulse dropped, though not to a dangerous degree.

9. Henry, Jno. Norman. International Clinics, 1908, Series 18, vol. iv, p. 1.

Case I.

Male, 9 years.

Period of incubation.—6 weeks. Previous immunization.—None. Nature of wound.—Abrasion of skin of back by kick of horse.

Magnesium sulphate treatment.—Lumbar puncture 3 c. c. of 25 percent solution of magnesium sulphate injected in subarachnoid space. 5 days later subarachnoid injection repeated.

Result.—Recovery.

Comments.—The case was a severe one. Made an excellent recovery. Each injection was followed by a relaxation of the rigidity.

Case II.

Male, 19 years, 123½ pounds.

Period of incubation.—7 days. Previous immunization.—None. Nature of wound.—Stepped on a nail. At time of admission, the wound was healed.

Other treatment.—Wound of foot excised.

Magnesium sulphate treatment.—Lumbar puncture 6 c. c. of sterile solution of magnesium sulphate injected into spinal canal. Ethyl chloride used as anaesthetic.

Result.—Death. Admitted July 30th, died Aug. 2nd.

Comments.—One hour after injection patient was entirely relaxed. A rise of temperature followed the intraspinal injection.

Case III.

Male, colored, 9 years, 55 pounds.

Period of incubation.—6 days. Previous immunization.—None. Nature of wound.—Stepped on nails with both feet and inflicted punctured wounds.

Magnesium sulphate treatment.—Lumbar puncture, 4 c. c. of clear spinal fluid withdrawn. 2½ c. c. of 25 percent solution magnesium sulphate injected into spinal canal. Two days later repeated injection, only gave 2 c. c. at second injection.

Result.—Death.

Comments.—A rise of temperature followed each injection.

Case IV.

Male, 45 years.

Period of incubation.—3 weeks. Previous immunization.—None. Nature of wound.—Stepped on nail.

Other treatment.—On same day as second subarachnoid injection, 18 c. c. of antitetanus serum were given subcutaneously. On the morrow, 30 c. c. of antitetanic serum were injected into the left buttock.

Magnesium sulphate treatment.—6 c. c. of 25 percent solution of magnesium sulphate injected into subarachnoid space by lumbar puncture; 3 days after above, performed lumbar puncture, removed 35 c. c. of clear spinal fluid, and injected 6 c. c. of sol. of magnesium sulphate.

Result.—Death on evening of second day following second injection.

Comments.—"It is very much a question whether the magnesium sulphate did not contribute to the patient's death."

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There is a hospital in Aintab, Turkey, which is famous throughout all Northern Syria. It was established and is presided over by Dr. F. D. Shepard, a medical missionary under the American Board. He was once asked what he considered his most successful surgical operation. He replied: "An operation I once performed for strangulated hernia, in the night, in an old hovel without floor or bed or window, the patient a man lying upon a mass of filthy rags upon the ground that had been trodden by the feet of ten generations at least, my only assistant an old, ignorant woman who held the native oil-lamp that gave off 90% smoke and smell to 10% of light. The operation had to be performed at once or the patient must die. He made good recovery, thus proving the uncertainty of the microbe theory as applied to those conditions."

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

H. C. TINKHAM, M. D., B. H. STONE, M. D., } .....*Editors.*

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EDITORIAL.

With the close of this college year ended the last vestige of the old order of things in connection with the Medical Department of the University of Vermont and the department becomes an integral department of the University under the control and management of the Trustees of the University in the same way the other departments are controlled.

The University assumed control of this department in all respects except financial when it was re-organized several years ago, but at that time it was not possible for the University to guarantee the expenses and the Faculty of Medicine assumed the financial obligations of the department.

During the past few years the higher standards of medical education maintained have increased the cost of medical instruction so much that the income from the fees of students would barely pay the cost of maintenance, to say nothing of the salaries of professors, who, for three years gave their services practically without remuneration.

The last General Assembly of the State of Vermont, recognizing the value of this department of the University to the people of the state in hospital service and also in making the services of specialists available to the poor people without charge at the hospital clinics, voted an annual appropriation of $10,000 to the University of Vermont in aid of medical education. This made it possible for the University to assume the financial responsibility of this department, collecting all fees and paying all bills including the salaries of the professors and auxiliary teachers.

This completes a change which has been earnestly desired for a long time both on the part of the university and the Faculty of Medicine and we believe it is the beginning of a new epoch of prosperity for the University of Vermont College of Medicine.

The Faculty of the University of Vermont College of Medicine have voted to make the standard of education required to enter this department conform to the standard required by the Association of American Medical Colleges, which is a few points more than is received by the high school graduate, and in 1912 to further increase the standard of preliminary education by requiring one year of study in an academic college which shall be devoted largely to the study of chemistry, physics and biology. These subjects have been included in the work of the first year in medicine and the effect of this change will practically be to make a five year medical course. This will work out to the advantage of the student by giving him more time to master the various subjects of medicine and surgery and more time for collateral reading. It is very obvious that study done under less pressure and with more time for collateral reading and thought must produce better results,

that is better educated physicians—and consequently better medical service to the general public. The public should not forget that this higher education has been obtained at a greater expenditure of time and money on the part of the physician, and if he is qualified to give better service he may reasonably expect to receive better pay for such services.

The question of higher standards of education for medical men, involving both general and medical education, which are being adopted by most if not all medical schools has a most important bearing on the common law of supply and demand as applied to physicians.

It is being said that there are too many physicians in this country. This may be true from the financial standpoint of the physician, but from the standpoint of the general public can there be too many *good* physicians?

It is obvious, however, that a physician good or bad cannot stay in a locality if he cannot earn a living. It is unfortunate, perhaps, that the financial aspect of the life of a physician should be considered, for there is something attractive in the old sentiment that the office of the physician was to care for the sick simply because they were sick and without the thought of recompense. However, the physician of today must plan to meet the expenses of living the same as other people and he must choose a location with the financial aspect in view as much as the needs of the people.

There is great danger that the physician who has to spend more time and money in securing his education will not be willing to locate in the smaller places and live on the meager income available there. He has more money invested and is able to give better service and it is only reasonable to expect a better income. This can only be accomplished in one of two ways, either larger fees for medical service or a larger field—less competition. In the present financial condition of the masses of people it does not seem probable that larger fees can be paid. If this be true the result will be that many small towns and villages throughout the country who now have a resident physician will be unable to support one and will have to depend upon physicians in neighboring towns.

This question should be looked at from the logical standpoint of the best interests of the people. Too low a standard of education gives the people incompetent medical service, and too high a standard will compel physicians to be more centrally located, and deprive many communities of the services of a physician except from a distance.

We are inclined to believe that general educators see the side of a highly educated physician without, perhaps, analyzing the conditions and needs of a large part of the people in the smaller towns. There must be a logical standard of medical education which will meet both these view points reasonably well and furnish physicians who are qualified to apply the principles of modern medicine intelligently and at an expense within the reach of the common people.

We have just received the July number of the *Annals of Surgery* which is a decided innovation in medical journal publication and merits the heartiest appreciation from the subscribers to this publication. This number has 366 pages and contains 26 of the best papers presented at the meeting of the American Surgical Association held in Philadelphia June 1 to 3. We congratulate the management of the *Annals of Surgery* for this valuable number.

The establishment of a post graduate course in public hygiene in the University of Pennsyl-

vania and the organization of a department of preventive medicine in Harvard with Dr. Rosenau at its head are indications of progress in this important branch of prophylaxis. It means the actual launching of a new era in medical science and all medical schools will in a short time recognize the extreme importance of training in this branch of science by the establishment of appropriate courses. These will probably be in some measure elective for with a class of trained sanitarians, the general practitioner will not need to be so proficient in all the details of rural and municipal sanitation as at present when the work falls on his shoulders. The development of sanitation and the demand, growing out of these developments, for specially trained men to take up the burdens of protecting communities, municipal and rural, against the ravages of preventable diseases, has in the past found no corresponding supply of men trained in the intricacies of prophylaxis. There can be no doubt that the public will soon come to see, if it does not already appreciate, the true economy of liberally paying men competent to perform such service. Sanitarians have in the past been poorly paid and consequently the field has not attracted the class of men which it should. This is being remedied in the larger municipalities and there are few cities of any size which do not pay reasonable salaries at least to their health officers. In the country the problem is more difficult. The town cannot afford to pay adequately for such service and while it is true that the health officers of most of our towns are an efficient body of men, it is also true that most of them are giving their services at an actual money loss. It has seemed to us for some time that a modification of the English system would be an improvement. A simple way of approximating the system would be to make the health officer a county official centrally appointed and paid a fixed salary apportioned on the population. He could thus receive an emolument adequate to pay for his whole time and the territory would not be too great to be covered by one man. The position would then be worth seeking for and we could expect a sufficient number of our young men to devote time to special training along these lines.

NEWS ITEMS.

The annual meeting of the Rutland county medical and surgical society was held at the Prospect House at Lake Bomoseen July 13th, about 25 members being present. The report of the secretary showed that 64 members are enrolled. Officers were elected as follows: George Rustedt of Rutland, president; H. S. Martyn of Cuttingsville, vice-president; H. R. Ryan of Rutland, treasurer; William Stickney of Rutland, secretary; S. W. Hammond of Rutland, C. C. Perry of West Rutland and J. S. Horner of Pawlet, censors; G. G. Marshall of Rutland, auditor. Drs. C. S. Caverly and J. M. Hamilton of Rutland were appointed delegates to the state medical meeting for one year, and Drs. M. R. Crain of Rutland, C. E. Clifford of Fair Haven and J. S. Eastwood of Brandon for two years. Dr. D. A. Shirres of Montreal, a nerve specialist, delivered an address and was made an honorary member of the society. The president's address was delivered by Dr. W. W. Townsend of Rutland. After a dinner the members took a steamer ride around the lake.

The Addison County Medical Association held its mid-summer meeting at the Addison House July 9th. There was a good attendance. In the absence of the president, Dr. F. C. Briggs of Bristol, took charge and the following officers were elected: President, Dr. George F. B. Willard of Vergennes; vice-president, Dr. R. W. Prentiss of East Middlebury; secretary, Dr. F. H. Phelps of Vergennes; treasurer, Dr. F. C. Briggs of Bristol; librarian, Dr. M. H. Eddy of Middlebury. Dr. Phelps read a paper on "Erysipelas," which was followed by an interesting discussion. It was voted to hold another meeting in September, the date and place being left to the executive committee.

Dr. H. W. Mitchell, University of Vermont, class of 1896, was recently appointed to the superintendency of the Bangor Insane Hospital, Bangor, Me.

Edward Howard Vose, M. D., Medical School of Maine '64, died at his home in Calais, June 27, aged 74.

Dr. H. C. Tinkham of Burlington and Dr. Godfrey Pisek of New York sailed July 30th for a month's trip through England, France and Germany.

A son was born to Dr. and Mrs. H. L. Croft, North Fryeburg, Maine, July 25th.

Isaac Sanford Curtis, M. D., Medical School of Maine, died at his home in Brunswick, June 9th, aged 70 years.

Quincy Adams Bridges, M. D., Medical School of Maine, Brunswick, died in Berlin, N. H., May 17, aged 45 years. Dr. Bridges resided at Guilford, Me.

Henry Waltrous Post, M. D., University of Vermont '76, died at his home in New York City, June 25th, from the effects of a self-inflicted gunshot wound of the head, while irresponsible on account of heat prostration, aged 54.

Frank Huron Wallace, M. D., Dartmouth Medical School, Hanover, N. H., '86, died June 27, in the Massachusetts Eye and Ear Infirmary, Boston, from acute nephritis, aged 49.

Dr. J. H. Dodds of Burlington has been attending the school for instruction of Military Surgeons at Antietam, Md., for the past two weeks.

Dr. Alfred S. Houghton, who for the last two years has spent a large part of his time at St. Albans, died in that city July 29th. Dr. Houghton has been for many years connected with the New York Civil Service and although born in St. Albans most of his active life has been spent in New York City.

Dr. Charlotte D. Stewartson of Manchester, N. H., was married July 14th to Mr. J. Brodie Smith of that city.

Dr. J. N. Perreault has removed from Manchester, N. H., to Danielson, Conn.

Dr. A. C. Norton, Dartmouth '97, has opened an office in Manchester. He will give special attention to eye, ear, nose and throat work.

VERMONT STATE BOARD OF MEDICAL REGISTRATION.

QUESTIONS USED IN MID-SUMMER EXAMINATION.

ANATOMY.

1. Describe the bony pelvis, and state what bounds the cavity of the true pelvis above.
2. Give the anatomy of the hip-joint.
3. Give origin, insertion, nerve supply, and action of prenater radii teros muscle.
4. Describe the circle of Willis.
5. Describe the peritoneum and its reflections.
6. Bound the axillary space, and name its contents.
7. Describe and bound the fourth ventricle.
8. Describe the prostate gland, and give its relations.
9. Describe the male urethra.
10. Name the coverings of femoral hernia.

BACTERIOLOGY.

1. Classify bacteria, and name the two most common pyogenic bacteria.
2. Differentiate the gonococcus from other diplococci.
3. By what culture characteristics can the colon bacillus be distinguished from the typhoid bacillus?
4. Describe the bacillus of Eberth, and give Widal's test for typhoid fever.
5. What bacteria are liable to be mistaken for the tubercle bacillus, and how may this error be avoided?

MATERIA MEDICA AND THER.

1. State properties, action and preparations of Tannic Acid.
2. Name four spinal stimulants and state the action of such drugs.
3. Write a prescription for Asthma, Basedow's disease, Infantile bronchitis.
4. How would you proceed if called to see a child (1 year) in convulsions?
5. Name three hypnotics, state action of each and when indicated?
6. Name varieties of expectorants, name three drugs under each and give dose of same.
7. How would you manage a case of lobar pneumonia in adult? Catarrhal pneumonia in child (6 months)?
8. How would you manage a case of diabetis mellitus?
9. Give your treatment, prophylactic and medicinal for a dilated heart.
10. Name three preparations of the following and state incompatibles, and indications for same,—Hydrastis, Cinchona, Creosote, Bromides. Outline general principles of treatment in a case of poisoning.

CHEMISTRY.

1. a. State the physical and chemical properties of O.
   b. Mention 4 methods by which O may be obtained.
2. a. How many oxides of N are known? which forms acid?
   b. State composition, properties and test for Carbonic Ac.?
3. a. What elements does Magnesium resemble?
   b. Complete Mg. Co 3 plus H2 So 4=
4. a. What are alums and state 4 important ones.
   b. Describe and give diagnostic importance of Ehrlich's diazo-reaction.
5. a State characteristics of the Arsenic group of metals.
   b. Show by equations the formation of dibasic acids from monobasic acid, from alcohol.
6. How is urea formed in the body?
7. What is acholia?
   What is cystin?
   Answer any five.

PHYSIOLOGY.

1. Describe ciliated epithelium and (a) state where it is found most abundantly. (b) What is the function of ciliated epithelium?
2. Name some of the bodily states which lessen the alkalinity of the blood.
3. What is the office of the columnæ, carneæ?
4. What post-mortem tests should be applied to prove that air has entered the lungs of a supposedly still-born child?
5. Describe the functions, and (a) secretions of the stomach.
6. What is the function in digestion of (a) saliva, (b) bile?
7. How do the products of digestion find their way into the blood?
8. What is the cerebrospinal system of nerves and (a) to what parts of the body are its fibers chiefly distributed?
9. State where in the human economy the following substances are found: [1]fibrin; [2]mucin; [3]chondrin; [4]leucin; [5]hippuric acid.
10. Name the structures in the body whose functions are doubtful or unknown.

HYGIENE.

1. Into what general classes are foods divided? Give examples of each.
2. Describe the physiological action of alcohol.
3. What hygienic precautions should be observed by a pregnant woman?
4. If a chemical analysis of water revealed the presence of nitrates and nitrites, [1]would this condemn it for drinking purposes? [2]If so, why?
5. Describe the preparation of patient, [1]surgeon, [2]instruments, [3]and surroundings for operative procedures.

SURGERY.

1. Name the different tumors of the breast, and describe Halstead's operation for the removal of carcinoma of the breast.
2. Diagnose fistula in ano and describe operation for its cure.
3. Give the symptoms of strangulated inguinal hernia. What is taxis; how long continued and how soon abandoned? Describe Bassini's operation for the radical cure of inguinal hernia.
4. Give the etiology, pathology and symptoms of empyæma and describe best operation for its cure.
5. Mention the articles you would require in administering ether, the accidents likely to occur and methods for their relief.
6. Differentiate hernia cerebri from caput succedaneum. Give treatment of the latter.
7. Diagnose fracture of the patella and describe methods of treatment.
8. Describe the various dislocations of the shoulder. Give method for reducing one variety.
9. Give the symptoms and treatment for fracture at the base of the skull.
10. Define osteomalacia and state its significance in surgery.

PRACTICE OF MEDICINE.

1. How would you diagnose typhoid fever?
2. Give differential diagnosis between small pox and chicken pox.
3. Discuss the treatment of pulmonary tuberculosis amongst the poor.
4. Give treatment for the different pleural effussions.
5. Give treatment for the two commonest of the valvular heart lesions.
6. Discuss prognoses in cerebral embolism and cerebral hemorrhage.
7. Write a short article on epilepsy.
8. Discuss intestinal neuroses.
9. How would you manage a case of nervous prostration in a very poor family?
10. What are the comparative urinary findings in the first stages of chronic parenchymatous and chronic interstitial nephritis?

OBSTETRICS.

1. Describe the changes which occur in the external genitals during pregnancy.
2. Give presumptive signs of pregnancy. Give positive signs. How early during pregnancy would you expect to be able to make a positive diagnosis?
3. Give symptoms and treatment of albuminuria of pregnancy.
4. Describe in detail the preparation of the patient pending labor.
5. How would you resuscitate a child apparently still-born?
6. Give diagnosis and management of a case of occipito-posterior presentation.
7. In a tedious but otherwise normal labor what symptoms would lead you to interfere? What would you do?
8. Describe the varieties of placenta praevia. To what dangers does the condition expose the mother and child? How would you manage a case?
9. Give symptoms of impending eclampsia. How would you treat a case? What would be your treatment should convulsions ensue?
10. Name the more common pathogenic bacteria that may infect a woman during the puerperium. To what conditions may such infection give rise?

PATHOLOGY.

1. (a) What are the causes of fever?
   (b) What are the effects of fever?
2. (a) Mention all the pathologic conditions which may produce hemoptysis.
   (b) The same of hematemesis.
3. Give the pathology of tubercle.
4. Explain the propagation of tapeworm.
5. Mention the different varieties of goiter and give their pathological differences.

GYNECOLOGY.

1. Give symptoms of imperforate hymen. How would you manage a case of long-retained discharges due to such conditions?
2. Differentiate simple catarrh from gonorrheal vaginitis.
3. Define rectocele, cystocele, enterocele.
4. Give etiology, symptoms and treatment of chronic ovaritis.
5. What are the causes of uterine displacements? Which one is of the greatest interest from the obstetrician's standpoint?

LEGAL MEDICINE.

1. Define the term Railway Spine.
2. Describe the general characteristics of gunshot wounds.
3. Differentiate paranoia and dementia paralytica.
4. What post mortem appearance would lead you to pronounce that death was due to drowning?
5. What is rigor mortis, how is it produced, how long after death does it appear and when does it disappear?

BOOK REVIEWS.

WRITING THE SHORT STORY.—A practical handbook on the Rise, Structure, Writing, and Sale of the Modern Short-Story. By J. Berg Esenwein, A. M., Lit. D. Hinds, Noble & Eldredge, Publishers, 31-33-35 West 15th St., New York.

A most delightful and practical text-book has come to us in a little volume entitled "Writing the Short Story" by J. Berg Esenwein. To teachers its logical outline, its definite treatment of the material and technique of the short story, will greatly facilitate class work. Its outline summaries, its questions and exercises at the close of each chapter are particularly helpful and suggestive. To the student, the book will be of great value. The numerous illustrations graphically show the author's thought which is everywhere characterized by conciseness and clearness. The list of "Don'ts" might well prove discouraging to the young dabbler in fiction, but to one who has stories to tell and an eager desire to know how to tell them, this handbook will prove not only a careful and trustworthy guide, but a source of inspiration.

HAND BOOK OF DISEASES OF THE RECTUM.—By Louis J. Hirschman, M. D., Detroit, Mich., with one hundred and forty-seven illustrations, mostly original, including two colored plates. C. V. Mosby Medical Book & Publishing Co., St. Louis. 1909.

This Hand-Book has been written with the idea of giving the general practitioner such knowledge of modern technique in the treatment of diseases of the rectum, together with a general discussion of the pathology, diagnosis and treatment as shall enable him to care for ordinary cases in his office. It also makes clear when the general practitioner should advise his patient to have the services of a specialist. The chapter on examination of the rectum is especially complete. The book is well illustrated, well written, and cannot fail to be of great service to the general practitioner.

INTERNATIONAL CLINICS.—A quarterly of illustrated Clinical Lectures and Especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and Other Topics of Interest to Students and Practitioners. Edited by W. T. Longcope, M. D., Philadelphia, with the collaboration of Wm. Osler, M. D., John H. Musser, M. D., A. McPherdran, M. D., Frank Billings, M. D., Charles H. Mayo, M. D., Thos. Rotch, M. D., John G. Clark, M. D., James J. Walsh, M. D., J. W. Ballantyne, M. D., John Harold, M D., Richard Kretz, M. D., with regular correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels, and Carlsbad. Volume II. Nineteenth Series, 1909. J. B. Lippincott Company, Philadelphia and London.

Volume II, of the Nineteenth Series of the International Clinics is fully up to the attractive standard this publication has always maintained. This volume has a very attractive list of contributors, and the subjects treated are especially important. International Clinics gives the physician an opportunity to get a résumé of the various subjects of medicine and surgery in convenient form and at convenient intervals.

THORNTON'S POCKET MEDICAL FORMULARY.—New (9th) edition. Containing about 2,000 prescriptions, with indications for their use. In one leather-bound volume. Price, $1.50 net. Lea & Febiger, Publishers, Philadelphia and New York, 1909.

This little book is a compilation of reliable prescriptions compiled by a general practitioner who also is a graduate in pharmacy and a professor of Materia Medica. To those physicians who are looking for information of this kind we can cheerfully recommend this book.

TREVES' OPERATIVE SURGERY.—New (3d) Edition. A Manual of Operative Surgery. By Sir Frederick Treves, Bart., G. C. V. O., C. B., LL. D., F. R. C. S., Serjeant-Surgeon to H. M. the King, Surgeon-in-Ordinary to H. R. H. the Prince of Wales, Consulting Surgeon to the London Hospital; and Jonathan Hutchinson, F. R. C. S., Surgeon to the London Hospital. New (3d) Edition, revised and rewritten. In two octavo volumes. Volume 1, 775 pages, with 193 engravings and 17 full-page plates. Half-morocco, $6.50, net. Lea & Febiger, Publishers, Philadelphia and New York, 1909.

Every surgeon in America will welcome the third edition of Treves' Operative Surgery, the first volume of which is ready. Those who are familiar with the earlier editions do not need any word of commendation and it is only necessary to say that the third edition, which has been largely rewritten, incorporates all that was so desirable in the previous editions, with the development of surgical technique since the second edition was written. It is a compendium of surgical technique from the preparation of the patient and operator to the after treatment of the patient. It is a most valuable book, not only for the young surgeon, but also for the experienced operator.

TREATMENT OF DISEASES OF CHILDREN.—The New (2d) Edition, Treatment of the Diseases of Children. By Charles Gilmore Kerley, M. D., Professor of Diseases of Children, New York Polyclinic Medical School and Hospital, etc. Second revised edition. Octavo of 629 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, $5.00 net; Half Morocco, $6.50 net. W. B. Saunders Company, Philadelphia and London.

The appearance of the second edition of this book in so short a time (two years) is sufficient evidence of the enthusiastic reception given the first edition by physicians. This book was written for specialists. It is a most valuable book for every practitioner of medicine to have in his library.

DISEASES OF THE BONES AND JOINTS CLINICAL STUDIES. By Joel E. Goldthwait, M. D., Charles F. Painter, M. D., Robert B. Osgood, M. D. Octavo containing 700 pages and 290 original illustrations well bound in cloth. Price $6.00.

This book is for the General Practitioner. It is not a work upon Orthopedics, nor upon Surgery, but is a study of the many heretofore obscure problems of chronic joint disease, addressed to all who must care for the so-called "Rheumatoid" cases. This book must appeal to the General Practitioner for he has to care for or advise treatment in the early stages of all joint diseases. It discusses in a very clear way the methods of examination, the symptomotology and treatment of all forms of joint disease, and represents the latest and best ideas in regard to this subject. The illustrations are of the best and cover every phase of the book. We cannot recommend this book too highly.

VACCINE AND SERUM THERAPY, INCLUDING ALSO A STUDY OF INFECTIONS, THEORIES OF IMMUNITY, OPSONINS AND THE OPSONIC INDEX.—By Edwin Henry Scheree, B. S., M. D., Assistant Professor of Parasitology and Hygiene, University of Missouri, formerly Assistant Rockfeller Institute for Medical Research, New York City, Illustrated $2.00: C. V. Mosley Company, St. Louis, Mo.

The chapter headings of this little book which includes Infections, Immunity, Opsonic Index, Criticism and Modifications of Wright's Opsonic Index Determinations, Nature of Opsonins, Vaccine Therapy and Serum Therapy give well the ground covered but they do not show the extremely concise and lucid way in which the subject matter of each of these headings is treated.

So much of experimental literature on these subjects has appeared in the last few years that the average practitioner feels much at sea. This book gathers all the results and discusses them in non-technical language. The subject of the conditions in which the treatment is indicated and the precise technique to be used is well covered,—all in all the best discussion of the subject we have ever read. It should be owned by every medical man.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

HEMORRHAGIC NECROSIS OF THE PANCREAS.

E. L. OPIE AND J. C. MEAKINS (*Jour. of Exp. Med.* July 1909) give the results of their study of three cases of acute hemorrhagic pancreatitis. This disease in man has followed such injuries to the epigastrium as the kick of a horse, and passage of a wagon wheel over the abdomen, and in a few instances hemorrhagic pancreatitis with fat necrosis has occurred about the tract of a gunshot wound of the pancreas. Study of such occurrences in the light of recent cases shows that both hemorrhage and inflammation are secondary to necrosis of pancreatic parenchyma. Bile or other irritating substance introduced into the pancreatic duct has been shown to produce hyaline necrosis of the gland within one hour. This is the basis upon which the experimenters have worked out their conclusions and the

three cases demonstrate the hemorrhagic necrosis of the pancreas, from (1) the occlusions of the duodenal orifice by a small gall stone; (2) occlusion of the duct of Wirsung by inflammatory deposit; and (3) obstructive changes due to a stab wound. In all of these cases the irritating factor seems to be the bile, deflected from its duodenal outlet and into the pancreas.

THE NATURE, DIAGNOSIS AND TREATMENT OF METABOLIC OSTEO-ARTHRITIS.

(So-called Rheumatoid Arthritis, Arthritis Deformans, etc.)

P. William Nathan, M. D., of New York, (*American Journal of the Medical Sciences*, June, 1909), divides the consideration of this disease as follows:

1. Study of the joint conditions, to establish a clinical identity, and to differentiate from other joint diseases.
2. Pathology of the diseased joints.
3. General symptoms in those afflicted with the disease.
4. Whether the disease is primarily a local or a general one.
5. If general, its nature and whether it is a definite, specific entity.
6. Treatment.

The Joint Symptoms. (a) Muscular atrophy appears earlier, and progresses more rapidly than in any other joint disease. This extreme, early atrophy suggests a general disease. (b) Joint stiffness is the earliest subjective symptom. At first this does not interfere with passive motion, and seems to be really weakness, rather than stiffness. (c) Pain varies greatly in intensity and character, usually being most severe when the disease is most active. (d) Joint swelling is often of a characteristic, nodular form. The interval by which the weakness and the subjective symptoms precede the joint swelling depends upon, first, the rapidity of progress of the disease, and second, the external mechanical conditions. When the progress is rapid or when the joints are much used, the swelling appears early. The character of the swelling also depends on the internal and external conditions. Where the progress is rapid, with early weakness, the joints are likely to be used but little, and the swelling comes on gradually, at first being spindle shaped, later becoming nodular. When the disease progresses slowly, the joints are likely to be used more while in an abnormal condition, and swelling may appear suddenly, with joint effusion. The effusion may remain, or it may be absorbed and the process repeated. (e) Joint deformity has led to the name of arthritis deformans. The so-called palisade deformity is the most characteristic; this consists of flexion of the middle and extension of the terminal phalangeal joint. Deviation of the fingers to one side also occurs, and flexion of the phalangeal and phalangeal metacarpal joints. The deformity depends upon muscular contraction in the early stages, with bone destruction as a later factor. (f) Loss of motion may result early from weakness, and may be caused later by swelling and muscular contraction. Passive motion will be limited by the contraction, but within such limits the joint will move freely. Since similar conditions may occur in some other joint conditions, in making a diagnosis other facts should be considered, as the onset and course of the disease, and the condition in the joints, as shown by radiograph.

Onset and Course. The disease is insidious in onset, always poly-articular and symmetrical, and the peripheral joints are first attacked. Other joints gradually become involved, and all the joints, including the spine may suffer. The disease never presents intermissions but there may be periods of quiescence.

Differential Diagnosis. The only other form of chronic, polyarticular, joint disease in which the joints are symmetrically and progressively involved is the poly-articular form of senile osteo-arthritis. Poly-articular infections must be considered, and conditions arising from such infections are often wrongly called arthritis deformans. The x-ray is a valuable aid in the diagnosis, early showing small areas of rarefication in the epiphyses of the bones. The writer says, "Hence, if a given case of joint disease is poly-articular, involving the peripheral joint first, with a marked tendency to be symmetrical, if the course of the disease is gradually progressive, new joints being involved from time to time; if the physical joint changes begin with swelling, which is followed by gradually increasing deformity; and if the radiograms show the peculiar punched-out rarefication in the early stages, and the absorption and distortion in the late stages, without the presence of proliferative processes or bony ankylosis, no matter what other condition may be present, it is absolutely certain that the disease is metabolic osteo-arthritis. And only when this combination of symptoms is present are we dealing with this condition."

Pathology. Contrary to the general opinion the changes begin in the articular ends of the bones. The bone begins to atrophy, bone cysts form, and focal areas of connective tissue appear, at first subchondral, later throughout the epiphysis. The bone ends are first distorted, later tending to be absorbed, and the small joints may entirely disappear. The nutrition of the cartilage is interfered with and this becomes involved and degenerates. As defects occur they are filled by connective tissue, loose and vascular, with no marked tendency to contract, so that while the joint cavity may be filled it does not cause ankylosis or much joint stiffness. The cartilage never proliferates, nor are periosteal outgrowths found. Capsular changes are very slight. From the pathological findings and the clinical observations the author holds the disease to be distinct from other joint conditions.

General or Constitutional Symptoms. Cachexia and anemia are present, often slight and slowly progressive, sometimes severe. Slight fever frequently occurs. The pulse rate is increased, tachycardia and palpitation may appear. General muscular atrophy is common and often marked. Reflexes are usually increased, and a characteristic fibrillar contraction may occur. In some cases the fingers have a peculiar appearance, the skin seeming too large, like an old glove. This condition seems to be present in cases with extreme atrophy of the bones. Children with the disease may present one of two types, as regards constitutional symptoms. One type corresponds to the adult type, and is afebrile, while the other, with fever and glandular enlargement, is the so-called Still's Disease.

From the variety of constitutional symptoms present in different cases it seems that the disease is not a local one, with the general condition secondary, and it also seems that the joint condition does

not always arise from any one specific disease. This conclusion is also supported by the fact that metabolic osteo-arthritis occurs in connection with psoriasis, Basedow's disease, and pulmonary tuberculosis. All these conditions however, exert a harmful influence on general nutrition; hence the writer holds that metabolic osteo-arthritis is due to a general impairment of nutrition. He summarizes his conclusions as follows:

(1). Metabolic osteo-arthritis is a distinct pathological condition of the joints, easily recognizable clinically.

(2). It is not a primary joint disease.

(3). It is not a specific, uniform general disease.

(4). It occurs with distinct general conditions, some of them specific.

(5). The joint disease is due to the impairment of general nutrition.

TREATMENT. Up to the present, recovery has not been considered possible. While some cures have been reported, they were probably cases of mistaken diagnosis. In considering the results of treatment it is very important not to confuse this disease with other joint conditions. From the fact that thymus extract has been shown to exert an influence on bone development, Dr. Nathan was led to use it in the treatment of this condition, meeting with much success. It was first tried in children and later in adults, with very satisfactory results, especially in the earlier stages. The treatment is begun by giving ten grains of thymus, three times a day, the dose being later increased to fifteen, and then to twenty grains. Rest is enforced till the symptoms of active joint trouble have subsided, then passive motion begun, gradually increased till the motion is limited only by the contracted tendons. When the patient can get on his feet and use the joints without irritation, deformities are corrected by the knife, followed by immobilization with light plaster-of-Paris bandages. The patient is urged to move about after a few days; the bandages remaining on for four or five weeks. All but the most severe and long-standing cases have shown definite improvement. The thymus is not regarded as a specific, but is believed to affect the causative condition by stimulating the general nutritive processes.

THE MEANS BY WHICH INFECTIOUS DISEASES ARE TRANSMITTED.

ALVAH H. DOTY, M. D., Health Officer of the Port of New York, in the *American Journal of Medical Sciences*, July, 1909, discusses the so-called fomites theory of transmission of infectious diseases, i. e. that such diseases are spread by means of clothing, baggage, cargoes of vessels, rags, etc. This is an old belief, gradually losing credence among sanitarians.

Formerly it was believed that yellow fever, plague and malaria were so conveyed. It is now admitted that this is not so, but many still think that such mode of infection does obtain in case of small-pox, typhus fever, measles, scarlatina, etc. The writer, however, while admitting that this may be true in very rare instances, does not consider the possibility as of practical importance. During 1892 and 1893 outbreaks of small-pox and typhus fever occurred in New York City, there being 842 cases of the former and 714 of the latter disease. In handling these epidemics about 80 people from the Bureau of Contagious Diseases were brought into more or less close contact with the patients, as inspectors, disinfectors, etc. These people wore no gowns, and had no special protection; they went freely to and from their homes, yet no case of either disease was carried to their families or friends. During the course of the above mentioned epidemics the Board of Health investigated carefully all cases reported, with constantly increasing evidence that the diseases were spread by direct contact, and not by the clothing and effects of well people, though frequently the first evidence seemed to point indisputably to such means.

It has long been thought that such diseases as measles, scarlatina and diphtheria are brought into schools by the clothing of well children who come from families where the disease exists. During the last few years many cities have had careful medical inspection in the schools, and the results tend to prove that the diseases are conveyed, not by clothing etc., but by mild and unrecognized cases of the disease. Many children, apparently well, have been found to harbor diphtheria bacilli in nose or throat; many seeming cases of simple coryza, when carefully examined, have turned out to be mild cases of measles.

Rags have been commonly accused of carrying disease, but the writer has investigated this belief carefully, at home and in Egypt, where the rags are apparently most liable to infection. These investigations, aided by statistics carefully prepared by the English authorities at Alexandria, showed that the persons who were in closest contact with these rags, as in the sorting room, were no more subject to infections than were other people. A similar accusation has been brought against paper money, but no evidence can be found to support it. Mr. W. W. Hilditch, who has made bacteriological investigations at Yale University says "One conclusion that may be drawn after a careful study of the subject is that money constitutes an unimportant factor in the transmission of disease."

On the other hand the writer believes that known means of infection are often carelessly treated. The stools of typhoid patients are known to transmit lime, and then thrown into water closet or privy vault. Experiments have shown that only the outside of tthe material is disinfected, so that the stools remain a source of infection. Sputum is also treated in a similar inefficient manner. Many think that the privy vault can be properly disinfected by the use of solutions or powders, and reliance upon this method may allow pollution of neighboring water supplies. For practical purposes the only sure disinfectant is heat, either by burning or by boiling.

It is not denied that rarely diseases may be spread by the clothing etc., and it is well that articles that have been in direct contact with those sick should be disinfected. But the too-ready acceptance of such theories of transmission does harm by causing laxness in the searching out and caring for the much more important factors, especially other cases, often mild and recognizable only on careful examination. Evidence is indisputable that infectious diseases are usually transmitted directly from the sick. It is also known that persons themselves well can carry and spread the germs of diseases such as diphtheria and cholera. Insects also are sometimes responsible.

Successful dealing with infectious diseases calls for the recognition of these facts, and particularly for the most careful search for all those affected with the disease, and their isolation. If this be

done there will be required less of the extensive and troublesome disinfection sometimes practiced, as in case of the clothing, baggage, etc., of well people who have been exposed to the sick. Nor does there appear justification for the detaining at home of well persons because their clothing may spread disease. Instead, let there be a daily examination of such ones, including the use of the thermometer, to discover the earliest symptoms of disease.

WHEN TO INTERFERE IN PREGNANCY AND LABOR.

Franklin S. Newell, M. D., (*Boston Medical and Surgical Journal*, June 24, 1909) says that interference may result in (1) saving life of the mother, (2) saving life of child, or (3) protecting the mother's health. The old teaching, that 97% of obstetric cases terminate satisfactorily if left alone, and that interference is justified only in the presence of marked abnormality, should be modified by consideration of the effects that modern civilization has had upon the physical and mental qualities of women, and also by the fact that modern aseptic technic has rendered interference less dangerous.

All will concede that definite abnormalities call for efficient, often operative treatment, though recognition of such conditions is too often delayed beyond the proper time. Such are permanent changes in the rate of the fetal heart, exhaustion of the mother, etc. But there are many minor conditions, where life may not be seriously threatened, that still call for interference at the proper time. When irregular labor follows an early rupture of the membranes, dilatation of the cervix and delivery is called for. Similar is the case where the uterus is contracting regularly, the pains severe, yet the cervix remains unyielding.

Again, when a woman at delivery is in poor general condition, unfit for the strain of a long labor, consideration for her health may demand early operative aid. A woman who, during previous labors, has had trouble from improper uterine action, is a probable subject for interrerence.

Proper treatment of an obstetrical case calls for an experienced attendant who shall give the woman careful attention during pregnancy and determine all that is possible about the probable character of the labor. Abnormalities should be recognized early, and interference is justified even in normal labors as soon as the risk of operation becomes less than that from the strain of labor. This time will of course depend on the skill and experience of the operator. In breech cases the author's rule is not to wait till there is a definite change in the character of the labor, but, as soon as progress ceases to be satisfactory, to terminate the labor.

In normal labor, i. e., where the child is in normal position, the vertix presenting, without relative or absolute insufficiency of the pelvis, interference is justified as soon as the labor is suspected to be pathological. A constriction ring formed early in labor would call for operation before exhaustion ensues.

If the position of the foetus cannot be determined, and the presenting part is beyond reach, if a reasonable time passes without progress, some abnormality is usually present, and the case should be so treated.

Considerations may arise during the pregnancy, raising the question of interference. One such condition is hemorrhage. During the early months this often indicates threatened abortion, but may arise from extra-uterine pregnancy, carcinoma, etc. Later hemorrhage causes a suspicion of placenta praevia, and calls for a definite diagnosis. If such condition exists the labor should, as a rule, be terminated. Early toxemia or hyperemesis, not improving under careful treatment, demands early interference. Later toxemia usually results in eclampsia, and prompt eliminative treatment will usually suffice, otherwise deliver at once.

The writer does not consider that a practitioner of medicine is a competent obstetrician, unless he can recognize abnormalities early, nor unless he can himself perform such operative treatment as may be required, or will call in a consultant for this purpose, and the above article presupposes such skill on the part of the attendant.

LEPROSY.

L. Duncan Bulkley, A. M., M. D., Physician to the New York Skin and Cancer Hospital, in the *Medical Record*, July 10, 1909, discusses the disease known as leprosy, lepra, or elephantiasis Graecorum. He believes that the popular feeling against the disease is due largely to the Bible, to works of fiction, to the fact that special hospitals have often been provided for the better care of lepers, and to the fact that those familiar with the disease have not taken the trouble to combat the common ideas.

The term leprosy, as used in the Bible, the writer holds, does not refer to the disease now so called, but to a variety of skin diseases; the expression "a leper white as snow" for example indicates psoriasis. From the various allusions to skin affections found in the Bible writers have recognized syphilis, favus, psoriasis, leucoderma, etc., but nothing appears to indicate the disease now known as leprosy.

The belief that leprosy, as known today, is a highly contagious disease seems without scientific foundation. The Leprosy Committee of the Royal College of Physicians of London, in 1867, opposes the belief that leprosy was communicable by proximity or contact. Dr. Welch, of Johns Hopkins Hospital, is quoted as saying "Leprosy is practically the least contagious of all the infectious diseases." This contention is supported by evidence from the old New York Hospital, the Trinidad Leper Hospital, from the Leper Hospital at Madras, India, and from other places, where the disease has been not uncommon with no evidence of contagion.

The question as to how the disease is transmitted has not been settled. Mr. Jonathan Hutchinson, of London, presents a theory, which Dr. Bulkley considers probable, to the effect that the affection is spread by eating of fish which is raw or not thoroughly cooked. The disease appears especially prevalent in regions where fish forms a large part of the food, and in nearly all large fish-curing locations leprosy is common. The writer believes this theory merits careful scientific investigation.

INTESTINAL WORMS AND APPENDICITIS.

By Dr. Francis D. Donoghue, in the June 1909, *Annals of Gynecology and Pediatry.*

The value of routine pathological examinations is strikingly illustrated by the marked advance in our knowledge of intestinal parasites which come from examination of removed appendices.

"The disease resulting from wounds made by members of the 'Arthropoda' corresponds to the diseases originating from wounds of the intestine caused by entozoa, mainly intestinal parasites." That intestinal worms may not impair the health in any way is true, just as mosquito bites may be harmless.

The round worm and the pin worm, Oxyluris Vermicularis, being of world-wide distribution, are the ones which most frequently cause trouble.

The fact that the pin or seat worm may be found high up in the intestinal tract is also a point of interest, as the usual methods employed in combating him must be ineffective.

The presence of entozoa in the appendix has been noted from time to time. No especial significance was apparently attached to the occurrence of these cases by observers until comparatively recently. The success which frequently results from vermifugal treatment in persons apparently suffering from appendicitis is a sufficient reason for again calling attention to the conditions.

Dr. Donoghue reports two cases: one, a girl of twelve years, upon whom he operated; the other, a boy of two and a half years, where no operation was performed. He says:

To protect our foods from infection from human dejections would seem to be easy, and as the ova of entozoa largely enter the system with food it would seem possible to largely prevent it.

Those of us who were brought up in the country are familiar with a multitude of ways by which the ova of entozoa may be spread to vegetables and other foods through (a) open water-closet; (b) either by having it connect with the ordinary barn cellar containing manure, which is afterwards used for fertilizer, or by the direct use in many cases of human excreta for garden fertilizing.

The food-products most liable to garden infection are celery, radishes, tomatoes, lettuce, cucumbers, and strawberries; while from defective drainage, or use of contaminated water for irrigation, we could easily get dangerous water-cress. He reaches the following conclusions:

First.—The presence of entozoa in the appendix is a not uncommon cause of appendicitis.

Second.—The form of irritation that presents depends upon the exact location of the cause.

Third.—Pin worms do not confine their activity to the rectum and lower sigmoid, as has been taught.

Fourth.—Many cases of so-called appendicitis, occurring in patients under twenty, are cases of intestinal irritation, due to the presence of intestinal parasites.

Fifth.—A study of the feces in all doubtful cases is of value; and before operation in doubtful cases antivermifugal treatment should be given.

Sixth.—The treatment of acute appendicitis, irrespective of causative factor, is surgical.

A lady who conducts a school of classical dancing hears some quaint remarks as she converses with her child pupils. One day preparatory to the first lesson in a dolphin dance she delivered to her class a little lecture on this fish. She described the grace of the dolphin, and afterwards she described its habits and mode of life.

"And children," she said, "a single dolphin will have 2,000 offspring."

A little girl gave a start.

"And how about the married ones?" she gasped.

Doctor A. D. Melvin, director of the bureau of animal industry of the U. S. Government, informs us that the annual loss to the country from tuberculosis amongst cattle is $14,000,000. While Professor Fisher, an equally good authority, informs us that the annual loss from human tuberculosis in this country is over seventy times as great, or over $1,100,000,000. —*Pacific Med. Journal.*

Head Injuries.—W. S. Simmons (*Long Id. Med. Jour.*, March, 1909) believes that basal fractures should be left alone if there is, in a reasonable time, some evidence of improvement. If, however, no tendency to recovery is apparent, or if the symptoms at first, whether slight or severe do not improve or decrease in intensity, then it were best to explore the middle fossa on both sides if necessary, and thus give these desperate conditions the only aid possible from a surgical standpoint.—*Medical Times.*

A Scientific Priest on the Dangers of Holy Water.—The sanitary dangers lurking in "holy water" have often been referred to by medical men. They have recently been scientifically studied by a monk, Fr. Augustin Gemelli, who is himself a highly qualified medical man. He publishes his results in the *Scuola Cattolica*. Each cubic centimeter of holy water in the basins in the church of Santa Croce, Turin, taken from the surface contained 150,000 microbes, while a cubic centimeter taken from the bottom contained no less than 6,000,000 microbes. He injected this water in animals and found that it always killed them, the causes of death being tuberculosis, colitis, or diphtheria. He does not think a daily cleansing with corrosive sublimate sufficient, but recommends a new form of holy water receptacle so constructed that persons instead of dipping their fingers into it can obtain three drops of water by pressing a button. A vessel of this nature has been placed in the church of Vergiate, Milan. Fr. Gemelli turned his attention also to the grilles in the confessional boxes. Water which had been used for washing these only contained 25 microbes per cubic centimeter and when injected into animals only proved fatal to 10 per cent. of them.—*London Lancet*, Oct. 10. '08.

An Attic Menagerie.—The architect R. F. Almirall has filed plans for a $40,000 pathological laboratory to be erected as an annex to the Metropolitan Hospital on Blackwell's Island. The main floor will contain the offices, a museum and specimen room and a room for autopsies; the second story will be fitted with a library and laboratories for microscopical, chemical and bacteriological research, and also a special private laboratory for the surgeons. The attic will be fitted as a menagerie for the animals who are to undergo experimentation.—*Medical Times.*

LINES TO A DELINQUENT DEBTOR.

If I should die to-night
And you should come to my cold corpse and say,
Weeping and heartsick, o'er my lifeless clay—
If I should die to-night,
And you should come in deepest grief and woe—
And say, "Here's that ten dollars that I owe,"
I might arise in my large white cravat
And say, "What's that?"

If I should die to-night,
And you should come to my cold corpse and kneel,
Clasping my bier to show the grief you feel—
I say, if I should die to-night,
And you should come to me, and there and then
Just even hint 'bout payin' me that ten—
I might arise the while,
But I'd drop dead again.

—Ben King.

Two young physicians, Mr. and Mrs. Wm. Cammack, who are at work in Chisamba, West Africa, performed their first hernia operation on a schoolroom table. The sheets, towels, and sponges were sterilized by boiling in a galvanized tub, which was the only thing available as a sterilizer; and they had to be used wet, as they could not be dried without danger of soiling them again. The native helper, who speaks a little English, stood by during the performance and helped carry the patient, still unconscious, to his room and bed. In describing the scene afterwards to a group of astonished listeners he said, "I saw—I saw—I saw him *die.* When we carried him home he was still dead and I never thought he would live again." Dr. Cammack said that people came from far and near to look at the man, who was as much a walking miracle to them as the man the Saviour restored to his mother from a funeral bier was to the people of his day and age.

It is stated that Dr. J. W. Trueworthy of Los Angeles, the physician who attended "Lucky" Baldwin during the month of his last illness, will receive a fee of $100,000.

Hoarseness.—Ten drops of dilute nitric acid three or four times a day in sweetened water is recommended for this condition by Ellingwood. Singers and public speakers will find this an excellent remedy. If immediate benefit is required, use three or four drops on a square of loaf sugar and allow it to dissolve on the tongue slowly, drawing the air into the lungs over it.—*Therapeutic Record.*

The reports of the Bureau of Animal Industry of the United States Department of Agriculture indicate that tuberculosis among live stock is steadily increasing as shown by the number of animals found affected at the various slaughtering centers. The meat inspection figures show that nearly one per cent of the cattle and over 200 per cent of the hogs slaughtered are tuberculous. It is estimated that in the country at large at least 10 per cent of the cows in dairy herds are tuberculous.

Anti-typhoid vaccination, states Lieut.-Col. W. B. Leishman (*Jour. Royal Army Med. Corps*) has been tried extensively in British regiments serving on stations where it is difficult or impossible to avoid infection. Of 5,473 soldiers inoculated only 21 were subsequently infected, with two deaths; while of the 6,610 non-inoculated in the same regiment 187 had typhoid and 26 died. Moreover, of the 21 inoculated cases 13, with two deaths, had received the old vaccine, which has since been greatly improved. Four cases had received only one inoculation, and all were mild. Only four contracted typhoid after two inoculations and all were very mild; the diagnosis, indeed, was doubtful in one. "Such results should be heeded by nurses and others who come in close contact with typhoids, for the dreadfully large percentage who become infected shows that prophylaxis is faulty or impossible."—*Medical Times.*

Hay Fever



For the treatment of Hay Fever the Adrenalin preparations are easily the most efficient agents available. These are especially commended:

Solution Adrenalin Chloride (1:1000).

Adrenalin Chloride, 1 part; Physiological Salt Solution (with 0.5% Chloretone), 1000 parts. Powerful astringent. Dilute with four to five times its volume of physiological salt solution and spray into the nares and pharynx (see Glaseptic Nebulizer adv. below). Ounce bottles.

Adrenalin Inhalant.

Adrenalin Chloride, 1 part; an aromatized neutral oil base (with 3% Chloretone), 1000 parts. Administer with our Glaseptic Nebulizer or other atomizer suited to oily liquids. Ounce bottles.

Adrenalin Ointment (1:1000).

Effective either alone or as an adjuvant to Solution Adrenalin Chloride. Collapsible tubes with elongated nozzles.

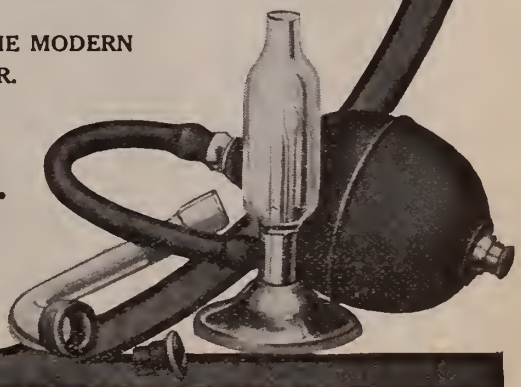
Adrenalin and Chloretone Ointment.

Each ounce contains: Chloretone, 20 grains (5%); Adrenalin Chloride, 2-5 grain (1:1000). Astringent, antiseptic and mild anesthetic. Collapsible tubes with elongated nozzles.

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as a restorative food rests fundamentally on its capacity to nourish and build-up starved tissues, without burdening in the slightest, necessarily weakened digestive organs. Its use, therefore, means rapid reconstructive material, but because it never embarasses the reconstructive process.

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THERAPEUTIC NOTES.

The Modern Treatment of Hay Fever.—Whatever be the accepted views as to the pathology and etiology of hay fever, there is little difference of opinion concerning its importance and the severity of its symptoms. An agent that is capable of controlling the catarrhal inflammation, allaying the violent paroxysms of sneezing and the abundant lacrimation, cutting short the asthmatic attack when it becomes a part of the clinical ensemble, and, finally, sustaining the heart and thus preventing the great depression that usually accompanies or follows the attack—in short, an agent that is capable of meeting the principal indications—must prove invaluable in the treatment of this by no means tractable disease.

In the opinion of many physicians, the most serviceable agent is Adrenalin. While not a specific in the strict meaning of the word, Adrenalin meets the condition very effectually and secures for the patient a positive degree of comfort. It controls catarrhal inflammations as perhaps no other astringent can. It allays violent paroxysms of sneezing and profuse lacrimation by blanching the turbinal tissues and soothing the irritation of the nasal mucosa which gives rise to those symptoms. It reduces the severity of the asthmatic seizure, in many instances affording complete and lasting relief.

There are four forms in which Adrenalin is very successfully used in the treatment of hay fever: Solution Adrenalin Chloride, Adrenalin Inhalent, Adrenalin Ointment, and Adrenalin and Chloretone Ointment. The solution, first mentioned, should be diluted with four to ten times its volume of physiological salt solution and sprayed into the nares and pharynx. The inhalant is used in the same manner, except that it requires no dilution. The ointments are supplied in collapsible tubes with elongated nozzles, which render administration very simple and easy.

It is perhaps pertinent to mention in this connection that Messrs Parke, Davis & Co. have issued a very useful booklet on the subject of hay fever, containing practical chapters on the disease, indications for treatment, preventive measures, etc. Physicians will do well to write for this pamphlet, addressing the company at its home offices in Detroit or any of its numerous branches.

Entero-Colitis and Cholera Infantum.—The following advice from the pen of a well-known Denver physician, will be found to be most seasonable and helpful, in the treatment of entero-colitis.

"Cleanse the intestinal tract with calomel and a saline or with castor oil. Prescribe a suitable diet, easily digested and non-irritating. Irrigate the rectum and colon at suitable intervals with normal salt solution or some mild antiseptic, using for the purpose a soft rubber catheter or colon tube.

"Instead of opiates, which lock up the secretions and thereby favor auto-intoxication, relieve the muscular rigidity and the excruciating pain which is such a drain upon the vital forces by the use of Antiphlogistine as hot as can be borne over the entire abdominal walls and covered with absorbent cotton. If the patient is not too far gone, the effect will be astonishing. The little drawn faced patient, who until now has been suffering severely, will in most cases soon quiet down; the agonized expression will leave the face and restful slumber supervene, thus starting the child upon the road to recovery."

THE TREATMENT OF CARBUNCLES AND KINDRED CONDITIONS.—When I find a case of carbuncle I investigate it just as I would any other ailment, correcting morbid conditions, both systemic and organic, by the use of proper remedies. Abbott's "Clean out, clean up, and keep clean" is the motto, and Salithia to effect with the W-A Intestinal Antiseptic (Sulphocarbolates Comp. Abbott) q. s. are the remedies of choice. While doing this, saturate with Abbott's calcium sulphide, an unexcelled product, and apply to the carbuncle a saturated solution of Menthol Compound (Abbott)—at least 4 tablets to 1 pint of water. Patients compare it to pouring water on a fiery coal. The pain is relieved immediately and does not return, and that is the desideratum with the patient. That's all. Only keep it up till resolution is complete.

With a little common sense, a good supply of the alkaloidal granules and tablets we can control everything controllable readily—but quality of medicine is of great importance. That's what Abbott gives us.

M. W. C. FRAZIER.

Carrizo Springs, Texas.

A noteworthy sanitary advance has been made by the Boston and Maine Railway system by the adoption of individual drinking cups in the cars.

It is proposed to build and endow an institution in China modeled after the Harvard Medical School, to be administered in this country by a board of trustees which includes ex-President Eliot and other eminent Harvard men. While independent of all religious or missionary control it will supplement with the best scientific instruction the hospital work now carried on by missionary physicians, who have laid broad and deep foundations in that empire for the study and practice of medicine.

FAMOUS TYPHOID CARRIER.—The typhoid carrier who attracted so much attention in 1907 as the supposed cause of twenty cases of typhoid fever in seven families in which she worked as cook, and has since been confined in the Riverside Hospital, North Brother Island, New York, recently appealed to the courts for release. In Justice Erlanger's decision refusing the petition, he said: "While the court deeply sympathizes with the unfortunate woman, it must protect the community against a recurrence of spreading the disease. Every opportunity should, however, be afforded her to establish, if she can, that she has been fully cured, and she may after further examination renew the application."



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Buffalo, N. Y.
White Plains, N. Y.
Columbus, Ohio
Portland, Oregon.
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Pittsburg, Pa., 4246 Fifth Ave.
Providence, R. I.
Toronto, Ont., Can.
Winnipeg, Manitoba.
London, Eng.

Chicago's approval of a municipal tuberculosis sanitarium by a vote of four to one has been followed by immediate activity in preparations looking toward its establishment.

The State Board of Medical Examiners of Oklahoma have decided that in future they will refuse to issue license to practice medicine to any physician afflicted with tuberculosis.

Eczema.—Samuel Stern, of New York, thinks that the general practitioner does not usually succeed in the treatment of eczema. It is a catarrh of the skin and occurs in persons who are predisposed to other forms of catarrh. Its exact etiology is as yet unknown, but opinion is tending toward the parasitic origin of the disease. The most frequent error in treatment is the use of water on the eruption which should be absolutely prohibited, cleansing being done with a neutral oil or cold cream. The internal treatment consists in getting the patient's nervous and general condition into the best possible shape. Arsenic is by no means a specific. Neither is diet. External treatment is most important. In erythematous lesions the author uses lead acetate and alum in form of a lotion on sterilized gauze until inflammation has subsided when it may be treated as is chronic eczema with a tar preparation in a zinc oxide ointment base. In dry eczema oleum rusci and olive oil mixed are useful. Cracks of hands may be painted with 5 per cent. nitrate of silver solution and then covered with salicylated plaster. The X-ray is very useful in treating the obstinate varieties and is without danger when properly applied.

A Clergyman's Tribute.—The Rev. Dr. Leighton Parks observes: "You will find to-day the largest body of disinterested, laborious, self-sacrificing men, looking for no reward and getting no reward except that which comes from faithful service to mankind in the profession of medicine."—*Medical Times.*

A Smoker's Heart in a Child of 3 Years 9 Months.—Such a case was recently discovered during a medical school examination in England. The father had trained the child to smoke; and was now giving him ten cigarettes a day and was making money by exhibiting the child's accomplishment.—*Medical Times.*

A Congress on Dentists in London has declared that the condition of the teeth of civilized races is very serious; "imperiling the future of those races." The trouble is, comments an exchange, that the civilized races have fallen into the habit of arming to the teeth instead of using a brush.—*Medical Times.*

Radium in Surgery.—Sir Frederick Treves (*Brit. Med. Jour.*) considers that we have practically reached the therapeutic limitation of the X-rays, the high frequency current and the Finsen light but that in radium we still have unexplored fields of usefulness. Treves believes (without desiring to raise false hopes) that radium will cure every form of nevous-port wine stain, pigmented or hairy mole and rodent ulcer which has not yielded to the Finsen light or the X-rays; and this in two sittings of an hour each. Much is also accomplished in the early stages of lingual labial epithelioma.—*Medical Times.*

The Treatment of Snake Bite.—Doubt has recently been thrown upon the theory (it was originally Sir Lander Brunton's) that permanganate of potash is a certain remedy if promptly and properly applied; the method, now well known, is to tie a bandage tightly over the limb above the bite, convert the punctured wound into a clean cut with the lancet, and rub in the permanganate moistened with water. In India where snake bites are universally deadly a case containing lancet and permanganate is sold very cheaply. Surgeon-General Benson and others who took part in the recent medical congress in Bombay, have found, however, that though cases of cure are reported, but little reliance can be placed on the remedy; it is claimed that the experiments which appear to support Sir Lauder Brunton are inconclusive, and that there is difficulty (assuming the value of the permanganate) in bringing the poison and antidote into intimate contact in the tissues. When a snake bites, the poison is deposited not in the skin itself, but in the aveolar tissue beneath, and as the skin is freely movable the fangs may drag it away from its proper position before the poison is injected; it thus happens that the poison is not deposited immediately beneath the punctures. Major Wall suggested that there would be no difficulty of this sort if the permanganate were injected into the blood stream instead of into the tissues.—*Medical Times.*

A CERTAINTY.

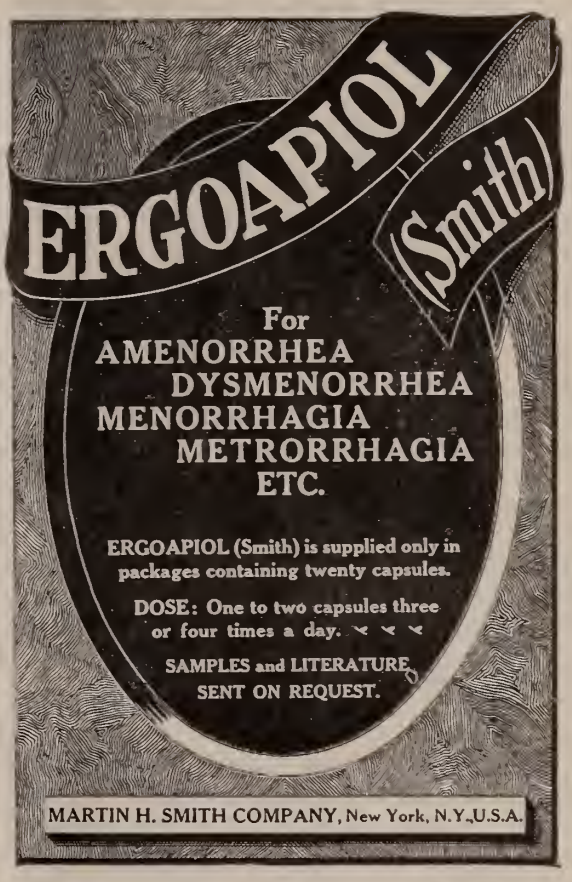
A lady in a Southern town was approached by her colored maid.

"Well, Jenny?" she asked, seeing that something was in the air.

"Please, Mis' Mary, might I have the aft'noon off three weeks frum Wednesday?" Then, noticing an undecided look in her mistress' face she added hastily: "I want to go to my finance's fun'ral."

"Goodness me," answered the lady—"Your fiance's funeral? Why, you don't know that he's even going to die, let alone the date of his funeral. That is something we can't any of us be sure about when we are going to die."

"Yes'm," said the girl doubtfully. Then, with a triumphant note in her voice—"I'se sure about him, Mis', 'cos he's goin' to be hung."—*Everybody's.*



In preparing a patient for an operation for anal fistula it is best to abstain from the use of purgatives for twenty-four hours before its performance, an enema being given in the morning.—*International Journal of Surgery.*

Fracture is far more common than sprains at the wrist, so that the presumption should be in favor of the former in doubtful cases. If possible, an x-ray examination should always be made.—*International Journal of Surgery.*

If a person complains of distinct symptoms of a foreign body in the eye and eversion of the upper lid fails to reveal its presence, a search should be made for it in the upper sulcus of the conjunctiva. This can be done by lifting away the lid from the eyeball with a spatula. Eyelashes often lodge in the sulcus and thus escape detection, if this is neglected.—*International Journal of Surgery.*

A Reassuring Statement.—The Lancet relates that a patient with a malignant growth of the larynx consulted a specialist, who recommended removal of the organ. The patient feared the operation would be dangerous, but the surgeon assured him he was bound to recover. "The mortality is nineteen out of twenty, and I've had nineteen deaths already." —*Medical Times.*

Arteriosclerosis, states G. S. C. Badger (*Bost. Med. and Surg. Jour.,* March 18, 1909) does not always call for treatment. There may be no symptoms attributable to it and the damage already done to the vessel walls cannot be cured; at best the process may be stayed or hindered. Causative factors must be corrected. High blood pressure does not always demand treatment—in some cases it is protective against disaster. A falling pressure is oftentimes ruinous. Treatment must be based on the ability properly to regulate the life of the individual.—*Medical Times.*

Grippe.—There has recently been a very serious outbreak in England; and it has been observed that painters in oil, if not absolutely immune, are less liable to be attacked by influenza than members of other professions. Possibly this is due to the low temperatures and good ventilation of British studios; or to the preventive chemical properties of the mediums and vehicles used by the artists. Possibly turpentine is a prophylactic; it is noted that water-color painters and decorative artists who do not use oils are frequent sufferers.—*Medical Times.*

The First Open-air Public School for Tuberculous Children in America is now in operation on the roof of the public library at Franklin Park in Boston. This experiment is being carried on by the Boston Association for the Relief of Tuberculosis. The progress made by open-air pupils is the same as that made by normal pupils in the same grade in the public schools. On the roof these children live in all kinds of weather, from nine in the morning until five at night. Each child is provided with a heavy blue ulster and a brown cloth bag, into which he crawls.—*Medical Times.*

A novel mode of warfare against the mosquito, but one that is proving highly successful, is being carried on in the city of Tampa, Fla. There are many rain-water tanks and cisterns throughout the city for supplying water for lavatory and various other purposes, and these are favorite breeding places for mosquitoes. The warfare against the annoying pest consists in stocking these reservoirs with small fish to feed on the mosquito larvae. This method has been tried in one place and another in Florida, and has proved successful in every sense. The fish eat the larvæ greedily, keeping the water clear of them, and live for years, even in tanks that are covered, and their living place one of darkness.—*Scientific American.*

A Ship's Deadly Cargo.—A steamer from Antwerp recently anchored off Grimsby, in England, and signalled for a medical officer to come aboard. Of the six steerage passengers, five (two men, two women and a boy) had died within an hour of a mysterious malady. The vessel was at once quarantined by reason of the recent cholera epidemic in Russia. Ptomaine poisoning was found upon autopsy; but the deaths were found to be really due to fumes from the ship's cargo, in which there were nine tons of ferro-silicon in barrels. This substance is used in the manufacture of steel; the captain testified that he had been told only of its liability to explode if confined, and to catch fire if wet, nor was he aware of any existing notice of the Board of Trade relating to this chemical's dangerous properties. Ferro-silicon is made up of iron, silicon, varbon, phosphorus and arsenic; fine gases emanated from the mixture—arseniuretted hydrogen, phosphoretted hydrogen, acetylene, pure hydrogen and sulphuretted hydrogen. The first of these substances is said to be so dangerous that Gahlen, its discoverer, died after inhaling one bubble of it. Within twenty-four hours the ferro-silicon would generate 110 feet of very deadly gas, if it be dry; but if this substance be moist there would be three times that volume of gas, sufficient to kill a hundred people. In such case the symptoms might be mistaken for cholera or ptomaine poisoning. These, it would seem, are the first recorded cases of death by inhalation of gases generated by ferro-silicon which the Coroner justly enough declared should not be carried in ships used for passengers.—*Medical Times.*

HAY FEVER

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The Kansas State Board of Health has forbidden the use of the common drinking cup in public and private schools and in State.

Colonel William C. Gorgas, sanitary officer at Panama, president of the American Medical Association, received the honorary degree of doctor of laws at the recent annual commencement of Jefferson Medical College, Philadelphia.

A new disease, christened "electric ophthalmia," is said to threaten all users of the electric light. According to two Dresden scientists, the damage is done the eye tissues by ultra violet rays of the electric light, and cataract may ultimately result. The same investigators have discovered a simple preventive for electric ophthalmia in the shape of yellow or green spectacles, which they prophesy will become universal as electricity comes more and more into use as an illuminant.—*Argonaut.*

The Philadelphia dog pound "handles" over 6,000 dogs annually. In the twenty-five years during which it has been taking up the stray dogs of that city, not a single case of hydrophobia has occurred, that is among 150,000 dogs. Again, within the last fourteen years over 500,000 dogs have been taken up in the streets of New York City in all stages of starvation and all sorts of forlorn conditions. The men engaged in their impounding have been, of course, repeatedly and severely bitten on hands, faces and all parts of the body; but hydrophobia has never appeared among them. Dr. Matthew Woods of Philadelphia has kept before the public a standing offer of $100 to any person who would bring a case of hydrophobia under his observation; and the reward has never been claimed.—*Argonaut.*

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REWARDING OUR HEROES.

A rich man's little daughter,
Left her nurse and strayed away,
And ran out upon the car track,
Where she loitered long at play,
Caring nothing for the trolley
As it whirred around the bend,
Knowing nothing of the angel
That was waiting to descend.

The rich man stood and trembled
With his darling on his breast,
And the motorman was lauded
And his hands were proudly pressed—
By a hair's breadth he had saved her,
He had acted just in time,
And the people called him noble,
And pronounced his deed sublime.

The rich man gave him money,
Gave him land and gave him praise.
Gave him presents for his children,
Made him glad in many ways,
And at night knelt with his darling
And implored the Lord to guide
The brave motorman from danger
And to save him when he died.

(A few weeks later.)

The rich man's little daughter
Lay upon her bed one day,
And her lips were parched with fever,
And all hope had died away,
But a doctor watched and waited,
Watched thro' weary nights, and won
Back the little maiden's roses
Ere his trying task was done.

He had left his bed at midnight,
He had watched with weary eyes;
He had braved the fiercest weather,
Sighing when he heard her sighs;
And he gloried in his triumph
When he saw her smiles come back,
Even as he smiled who saved her
Where she played upon the track.

But no crowds pressed round the doctor,
And no happy cheers were heard;
He had done a thing that's common,
Nothing thrilling had occurred.
And the rich man fumed like fury
When he got the doctor's bill,
Which he called an outrage—
Lawyers have the matter going still.

Dr. J. B. Sloane, Los Angeles, Cal.—*Mercks Archives.*

Darby was a Drug Clerk,
Darby is no more!
What Darby thought was H^2O,
Was H^2SO^4.—*Mercks Archives.*

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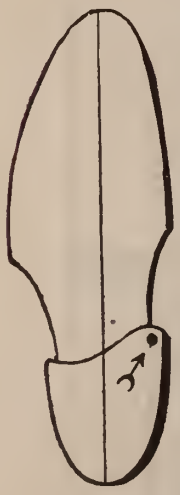
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Vermont Medical Monthly

Official Organ of the Vermont State Medical Society.

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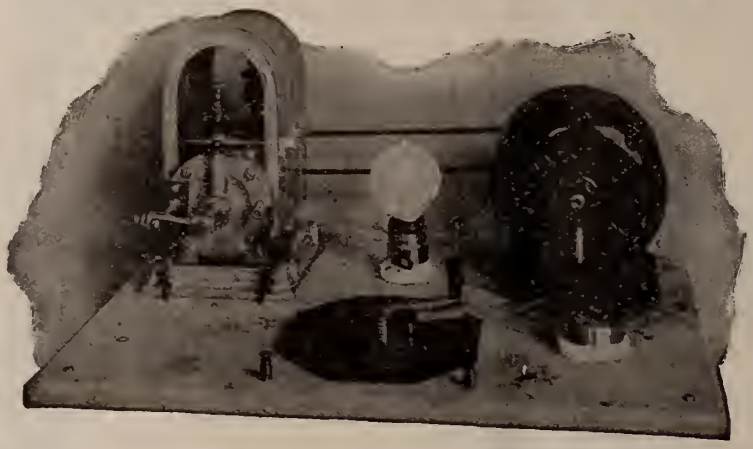
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An excellent solution for a wet dressing is that of Ochsner consisting of 5 per cent. carbolic acid solution, one part; saturated solution of boric acid, six parts; alcohol (95 per cent.) one part.—*International Journal of Surgery.*

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The Doctor's Real Opinion.

One of two sisters was suddenly taken with a lung attack. She therefore sent for a specialist and asked her doctor to meet him. Talking over his coming with her sister, she said: "Mona, I wish I could know Sir Henry B.'s real opinion. Neither he nor Dr. M— will tell us if there is anything really wrong."

Her sister replied: "Do not worry, dearest; you shall know everything, for I will go down to the dining room and stand behind the big oak screen and listen to every word they say."

"And you will be sure and tell me, Mona?"

"You may rely on me, dearest."

"Even if I am not to get well?"

"Even then, dearest," promised the loyal Mona.

The hour for the consultation arrived, and the sister went to the dining room, and standing behind the great oak screen, ensconced herself and prepared to listen.

By and by the two doctors were heard descending the stairs, and a moment later they came into the room. Walking over to the fireplace, the specialist sank into an easy chair, and the local doctor sank into another. Then followed a moment's silence, broken by the specialist, who leaned a little forward.

"My dear M—," he said, as he looked across at his colleague, "of all ugly women, that's the very ugliest woman I have seen in my life."

"Is she?" replied the local doctor. "You wait until you've seen her sister."—*London Telegraph.*

Vermont Medical Monthly.

VOL. XV. SEPTEMBER 15, 1909. NUMBER 9.

ORIGINAL ARTICLES.

MENTAL THERAPEUTICS.*

BY

WILLARD H. PIERCE, M. D.,

Greenfield, Mass.

I will make no apology for having chosen this subject as my part in to-day's programme. None is required, I feel assured.

My only explanation is that we as members of a noble, liberal and scientific profession, can not be unmindful of the fact that there is going on in the world of science and philosophy, a marvelous development of knowledge in regard to the psychology of the mind and particularly in its relation to the prevention of disease or the cure of already existing deviations from sound health.

I will. I believe. be pardoned if I say that we, as a profession, have been a little too conservative in our attitude towards this subject. There has been good reason for this in the past as, until within a comparatively short time this subject has been exploited, to a great extent, by quacks and charlatans rather than by the educated. scientific mind. But that day is passing, and I believe I am correct in predicting that the successful, broad-minded, up to date physician of the future will be he who combines a discriminating knowledge of metaphysics, with the broad education the doctor of today and the future must possess.

As far back as history gives us knowledge, through all the dim ages of the past, man has believed in the existence of a power capable of causing disease in the human body, and also, of curing the same by agencies other than material remedies or appliances.

This power, being invisible and intangible, was referred most naturally to agencies either mental or spiritual.

The study of the strange beliefs of our ancient ancestors, as regards the innumerable dangers that daily and hourly beset their paths and still more strange and peculiar means that have from time to time, been employed in conciliating these evil spirits, is extremely interesting and, in many ways, instructive. But neither does the time at my disposal nor the object of this brief essay, permit of more than a reference to them, as indicating the ever evident truth that there "is nothing new under the sun."

And also the still more important fact that under all "systems," both ancient and modern, whether it be the incantations of the witches, or the horrible disfigurements and contortions of the American Indian "Medicine Man," or the more modern "Eddy Cult," who style themselves "Christian Scientists," *they all do heal the sick.*

It is, to my mind, absolutely proven by a study of all this to which I have barely referred, that there is a mighty law, whether you call it the Law of God or the law of nature, it matters not; (it is merely a matter of terms) and this Law is, that man has a dual nature; i. e. he is possessed of an objective "every day" mind, familiar to us all, through which the action of his will is made evident; and a subjective or subliminal mind, a primary intelligence that is at once endowed with wonderful powers and at the same time wonderfully limited.

And I think that I am wholly within the bounds of truth in saying that to the discovery of this quality of man's mind is due all the real scientific knowledge of mental therapeutics as understood and practiced today. It has made clear and brought to a sound basis of psychological knowledge all that in the past has been looked upon as mysterious and occult; and those who in any way practiced the various forms of mental healing have been classed either among the charlatans or a little "off" in their mental balance.

But the progress made during the past decade, more especially in continental Europe, but of late in this country, by the study and writings of Prof. James of Harvard and others, has placed this enormously important subject on the high plane of a scientifically demonstrated fact.

The reason that such a large body of our most intelligent people have joined themselves to a cult with such ridiculous and unscientific principals as propounded in Christian Science, and whose leader has reached such an acme of egoism as to claim divine inspiration,

*Read before the Annual Meeting of Conn. Valley Med. Association, at Bellows Falls, May, 1909.

is that the human mind today demands something radically different both in the spiritual as well as material welfare of their souls and bodies. And, that numberless cases of return to health in that vast army of sufferers from functional nervous troubles who had sought in vain for aid from the usual methods of medical treatment, have occurred, none but the most narrow minded or least informed of us would gainsay.

The people are thinking as they never before have used their mental powers as is evidenced, not only by such accounts as that just mentioned, but by the much broader and really more scientific organizations such as the Emmanuel Movement and numerous other so-called mind cures, which will be referred to later, all these different organizations being necessary to appeal to the different stages of man's mental development.

Now, all these different combinations of thinking men and women have for their foundation one great fact in common, the importance of which outweighs all other considerations, viz.; The influence of the objective over the subjective mind. In other words *suggestion.*

Now, as I have before hinted, there is nothing really new in all this, merely knowledge, made clear and practicably applicable, of which we have always been vaguely cognizant.

From the familiar expression, "I feel better after Dr. ———— has called, before taking any medicine," all the way up through the innumerable ways in which mental suggestion is a potent factor to the suggestion given the hypnotized subject, the action of the objective mind upon the ever receptive subjective mentality is the simple, at the same time tremendously important fact.

Prof. James says, "suggestion is only another name for the power of ideas, so far as they prove efficacious over belief and conduct."

Ideas efficacious over some people are not so over others; and at some times or under certain environments they are not effective when they will be at other times or with other surroundings. An idea to be suggestive in its fullest power must come to the individual, with the force of a revelation. The mind-cure has come to many, with its gospel of healthy mindedness as a revelation, whom the Christian Church has left with hardened hearts.

Just how this process of suggestion takes place, just what is its *modus operandi* seems fairly clear if we admit the somewhat dogmatic statements that I have assumed to be true. I have assumed this, without going into minute analysis of all that has been learned by such thinkers and practical workers as Brown-Sequard, Bernheim, Sir Wm. Hamilton, James, Hudson, Dresser and many others, for it is unnecessary in addressing an educated body of men as I am today.

The difference between man's two minds may be stated like this: The objective mind is that which takes cognizance of the objective world about us through the media of the five senses. It is developed by his physical necessities and its highest function is reasoning.

The subjective mind takes cognizance of its surroundings by means other than the physical senses. It is the seat of the emotions and is the unfailing storehouse of the memory.

It stands guard over the vital functions of the body when the objective mind is occupied with other matters or when in its most profound sleep. Now it is apparent that anything which influences this vital governing power of the body, must be powerful for good or evil. The phenomena we observe when the subject is in the hypnotic state, gives us a clear demonstration of the existence of this dual mentality and of their radically different functions.

The objective mind, or man in his normal state, is not controlled against reason, knowledge or the evidences of the senses, by the suggestion of others.

But the subjective mind, when the man is in the hypnotic state, accepts without question, and acts upon it, whatever is suggested to it.

Now, there is one more exceedingly important principle, as first made clear by Bernheim, that is auto, or self, suggestion. The action of objective upon the subjective mind of the same individual.

Out of all this accumulation of knowledge there have developed many forms of mental healing, the most important of which are:

1st. *Prayer and religious faith;* as for example the cures at the Holy Shrines at some of which are exposed the relics of the saints, etc.

2nd. *The Mind Cure.* In this it is assumed all diseases are due to abnormal states of mind and are cured by direct action of the mind of the healer upon the patient.

3rd. *Spiritism.* In which the interposition of

the spirits of the dead operate through a "medium."

4th. *Mesmerism.* This includes all systems of healing founded on the supposition that there is a fluid that can be projected from the operator to the patient.

5th. *Suggestive Hypnotism.* This rests upon the law that persons in the hypnotic state are completely controlled by the power of suggestion.

6th. *Christian Science.* This method rests upon the assumption of the unreality of matter. This being the major premise, it follows that our bodies are unreal and therefore can not be diseased. This latter existing in the mind; this being the only thing that *does* exist.

There is no need of comment on the first five of these varying methods of applying one central truth, viz.: Mental Suggestion. For it seems clearly demonstrated that this powerful factor is really the agency which brings about the results in all these different methods of "cure." The faith of the devotee places the mind in the proper state to be receptive to the "suggestion," in whatever form it may be given to him.

I left Christian Science for the last, not on account of its least importance, but because I wished to say just a word in regard to the impossibility for the academic, analytical mind to accept its reasoning, or rather unreasoning. Faith is the necessary factor in all these differing methods of mental healing. But Christian Science as propounded by its "inspired" author, involves the proposition that the necessary subjective faith may be acquired (by repeatedly reading Science and Health, latest inspiration) without the concurrence of objective belief and in defiance of objective reason.

The foundation stone upon which the system is based is the assumption that matter has no existence; therefore, we have no bodies and hence no disease of the body is possible.

Now just reduce these statements to a syllogism: Matter has no existence. Our bodies are composed of matter. Therefore our bodies have no existence.

It follows, of course that disease can not exist in a non-existent body. The strong thing about it is that no serious argument can be brought against such a monumental absurdity. Nevertheless its followers are numbered by the hundred thousand; and the cure effected by its practitioners are of every day occurrence and many of them are nothing short of marvelous.

It is certainly one of the wonders of the age that this great body of people, among whom you and I number many of our respected friends, should believe, subjectively, that all that is real and tangible and beautiful in the world of our God given senses, has no real existence.

Their irrefutable argument is "By their fruits ye shall know them." And, as has already been said, the cures are many and wonderful. But I submit that the cures are no more real, no more wonderful and, in proportion to the number of the followers, no more numerous than any other form of psycho-therapeutics where the suggestion is equally potent.

But neither Christian Science, The Emmanuel Movement, nor any other of the cults that have arisen in response to man's craving have said the last word in the subject of psychology as applied to prevention and relief of human suffering from disease.

That great good has been accomplished by calling attention to this important subject and pointing out the need and the demand of humanity that it be given the benefit of all that this great law can give them, we are glad and most willing to acknowledge. But it has not been so clearly pointed out as it should be that there are dangers in store for this valuable agent if it is not finally brought to its highest state of usefullness by men of purely scientific minds and of the medical profession, instead of being made the basis of this or that cult whose members, although actuated by the highest motives, in some cases are not aware of the real nature of what they are dealing with.

And, further, although we speak of the subjective mind as synonymous with soul, I am profoundly impressed with the feeling that the minister of the gospel is departing widely from his field in opening "church clinics."

Although Christ was our Great Physician and he told his disciples that they would do greater things even than the miracles he performed, I am sure that in the grand process of evolution, it has come about that the prevention of disease and the treatment of the sick is best managed by the trained and scientific mind of the medical man.

The combined action of the physician and the priest, as in the Emmanuel Movement, although

at first thought seems to be ideal, has in it a great element of danger.

For, having been first examined by a doctor of high standing and ability, a feeling of security is given to the patient which does not take into consideration the possibility that, what today is a purely functional disturbance, may tomorrow develop into a disease of the greatest malignancy, which the clergyman is wholly incapable of recognizing and the results of the failure to give prompt medical or surgical treatment may be most disastrous.

Now, after a careful study of all that we learn from the history, both ancient and modern, of this deeply interesting subject, what does it all mean to us as scientific, practical, medical men?

In the first place, it does not mean that we have arrived at that stage of human existence when all medicinal and mechanical methods of combating disease may be dispensed with and our trust placed securely in the action of Divine power, either through the meditation of some self styled "inspired" leader, or through the unquestionably honest efforts of the ministers of the gospel.

All that has been accomplished in this way was necessary to bring the matter to the attention of thoughtful men. But what it does mean, I believe, to you and me as members of a profession which is bound to give to those entrusted to our care all the aid our knowledge is possessed of, that, sifted of all extraneous matter, we have in the properly applied use of mental suggestion an agent for good the power of which is hardly within the mind of man to, as yet, fully appreciate.

The general and special methods of the application of this agency will have to be worked out after a careful and thorough study of psychotherapy so the physician may have, as a basis for his treatment, a well grounded knowledge of the principles of suggestion. And the first step (without which our efforts will be of no permanent value) is to realize that there is nothing strange, occult, or mysterious about the matter; that we have a seemingly well established, scientific fact of psychology to add to our medical armamentarium, that it is not a specific for any disease; (although in many functional, nervous conditions it will, some day, really be all the remedy necessary) but will be a powerful aid to us, both in the management of our medical work and in the preparation and after treatment of our surgical cases.

I shall not attempt, at this time, to outline any definite course to be followed in making use of suggestion in your practical, every day work. It will be evident to you all that such a course is not as yet practicable. But, as our knowledge of psychology broadens, the use of this branch of it will gradually become evident to us.

In that increasingly numerous class of cases known as neuraesthenia where the use of drugs has been not only exceedingly unsatisfactory, but, on account of the necessity for the long continued use of nerve stimulants and sedatives, grave complications frequently develop, we have in suggestion an almost ideal remedy.

It is in these cases, some of which have been bed-ridden for years, that the marvels of Christian Science, or whatever, have been most pronounced. And, that we do not successfully treat these cases ourselves with just as marvelous results, is no one's fault but our own.

Beside the danger of chronic invalidism to the drug treated neurasthenic, there is another much more pernicious danger to the unsuspecting victim who is braced up by nerve stimulants by day and soothed into slumber by the deadly hypnotic at night.

That these cases furnish a large quota to that great army enslaved to the drug habit, every physician of wide practice and observation knows only too well. And right in this connection I wish to add my evidence that, in these cases of drug habituation which are holding in the "valley of the shadow of death" many of the brightest minds in our land, any treatment, whether it be the "pink solution" of the "Keely Cure" or any of the numerous other "cures" that have come into existence, that does not have as its basis mental suggestion, will be of little permanent value. And it is here that autosuggestion occupies a high place.

For I am deeply impressed with the belief that, in the case of the drug habitué unless there be the correct mental attitude, in other words, unless the sufferer impresses indelibly upon his soul (i. e. upon his subjective mind) the inflexible resolve that he must not and will not continue in this thraldom, there is little hope of a permanent emancipation.

On the other hand if there be established the correct mental state both in the patient and

those around him; in other words, if mental suggestion in all its power be brought to bear upon the sufferer, there is a much brighter picture.

I have mentioned this class of cases as being more nearly ideal for psycho-therapeutic treatment. But there is no branch of medicine in which the mental factor may not be made a valuable adjunct to our other treatment.

And, during nearly a quarter of a century of practice, the latter half of which has been devoted largely to surgery, I have learned beyond a doubt that no single factor has aided so much in determining a favorable outcome as the mental state of the patient previous to the administration of the anaesthetic and throughout the after-treatment of the case.

In the use of the morphine, scopolamine mixture, hypodermatically for producing general anaesthesia, I am sure there is a large element of suggestion. In fact, I have repeatedly induced a condition closely approaching complete unconsciousness by the use of plain, sterile water, given subcutaneously, accompanied with the emphatic assurance that the remedy I was using would, in a given time, render the subject oblivious to pain.

This was, of course, purely and simply, hypnotic suggestion. But I will not tax your indulgence further. And I shall have accomplished my object if there shall have been excited an interest among the members of this society in the subject of Psychotherapy.

For I predict that, in the years immediately to come, the mental factor will grow increasingly important in the successful, scientific practice of medicine and surgery.

Note:—Since writing the above essay I have had the pleasure of reading Prof. Hugo Münsterberg's able work on "Psycotheraphy," in which he disposes of the subject of the subconscious mind by saying "there is none."

But, although he goes on at great length and in a deeply philosophical manner to explain his meaning, I still feel that (as I have mentioned in connection with another matter) it is a matter of what certain terms mean.

And, as a working basis, I still feel that the "dual theory" is the best we have yet. Otherwise, as a complete and practical study of mental therapeutics, I would advise every physician to give the book careful study.

TRAUMATIC LUMBAGO.

BY

C. A. PEASE, M. D.

Traumatic lumbago depending upon injury to the spinal column cannot be classed as a functional nervous disease although it is very frequently accompanied by symptoms of neurasthenia. Lumbago is often one of the first symptoms to appear after an accident in which there is much force exerted that would cause a twisting and wrenching of the spine, the functional nervous symptoms developing later. Formerly it was supposed that the nervous symptoms following railroad accidents such as are manifest in traumatic lumbago were due to injuries to the spinal cord yet such does not seem to be the case, the cord not being injured as the cases nearly always made a complete recovery. There is no involvement of the sphincters, sensory involvement or paralysis unless some of the spinal nerves have been injured. Injury of the spinal cord is usually caused by extreme violence or with marked crushing or bruising injuries to the spinal column. It is difficult to say that the spinal cord has not been injured until observation and repeated examinations show that the functions of the cord are intact and not in any way impaired. Traumatic lumbago depends on the wrenching and laceration of some of the structures which make up the spinal cord, in the lumbar region. The vertebrae being held in place by many short ligaments, are separated by the intervertebral disks that accurately correspond with the surface of the vertebra to which they are attached. They are thickest in front and behind in the cervical and lumbar region giving more freedom of motion, while they are uniform in the dorsal region. These disks form one-fourth of the spinal column. Muscles supporting the vertebral column give it strength and power of motion, yet if this motion is carried too far, the muscles and ligaments will be strained and lacerated from the structures of the spinal column.

It is evident that the sudden wrenches and twists so frequently received from railway and other accidents may cause injury to the supporting tissues. The symptoms usually appear soon after the injury and gradually increase in severity for several days. The principal one is

pain in the back on motion of any of the muscles and pressure on the spinal and lumbar muscles is very painful to the patient. It is a question in my mind as to whether there is any hypersensitiveness of the skin. The strained ligaments and nerves being in a more or less inflamed condition are very painful on the slightest motion, and the patient is afraid of being hurt as previous examinations have taught him that manipulating the spinal column is very painful and so he shrinks from all contact. Deep pressure on the muscles of the back or tapping the spines of the vertebrae more frequently cause pain when the lumbago is of traumatic origin than otherwise. The muscular tenderness is probably due to injury to the muscle fibre. The pain and stiffness in the lumbar region caused by the injury persists long after the immediate and acute effects have passed away, while the attitude is quite characteristic, the patient putting himself in a position that will cause the least possible vibration or motion of the muscles, and the back is bent slightly forward and there may be slight curvature towards the injured side. The constant pain and suffering of lumbago by interfering with sleep and exercise may soon disturb the assimilation of food and the digestion be interfered with, which aids in producing a general neurasthenic condition although this is not a constant symptom.

A test that is of considerable value in determining the genuineness of pain consists in observing the pulse rate before, during, and after making pressure over the suspected sensitive area. If the pulse increases in rapidity during the pressure, the pain is supposed to be real and has acted reflexly to increase the rapidity of the heart beat. The pulse should be counted for some time before making the pressure to eliminate any acceleration due to psychic influence. The pain from pressure is usually felt at the seat of pressure but may radiate up and down the back or around the body.

I wish to report the following case:

Mrs. P., age 40; residence, Burlington, Vt.; occupation, housework. Injured August 12th, 1907, by the falling seats in a circus tent. She says she was doubled up and her back was wrenched by the fall and thinks she was struck in the back by a timber but there were no marks of external injury. When seen four hours after the accident, the patient was able to be about the house but complained of general muscular soreness and pain in the back and left side of the spine.

August 13th, 14th, complained of general muscular soreness but especially in the lower dorsal and lumbar muscles on the left side of the spine.

August 15th, muscular soreness had increased and patient complained of pain over left trochanter and the muscles of the left thigh, also pain on pressure over the three lower ribs on the same side. During this time the patient was able to be about but in standing the body was inclined slightly forward and the whole back held as though in a vise, in an apparent attempt to keep the erector muscles of the back perfectly immobilized. August 17th, examination of the patient at my office in consultation with Dr. T. The patient was still complaining of pain on the left side from the tenth dorsal vertebra to the sacral region and extending out about four inches from the spinous processes and radiating to the front of the abdomen and down the left thigh. The knee jerks at this time were somewhat exaggerated.

January 1st, examination at my office with same consultant. The patient still complains of pain in the left dorsal and lumbar region and over the distribution of the ilio hypogastric and ilio inguinal nerves. Patient says she tires very easily on attempting to work and has a great deal of pain in the back after much exertion. At this time the examination developed many more symptoms of a general neurasthenic condition and the patient was more susceptible to suggestion than she had been heretofore. Subsequent examination of patient showed a rapid improvement of these symptoms although the claim had not been settled and two months later her only complaint was pain on pressure over the lumbar muscles on the left side of the spine, and restricted motion of the body as she moved about.

THE MEDICAL ERA'S GASTRO-INTESTINAL EDITION.—During July and August, the Medical Era of St. Louis, Mo., will issue its annual series of issues devoted to gastro-intestinal diseases. The July number will take up the usual bowel disorders of hot weather and the August will be devoted entirely to typhoid fever. These issues always attract considerable attention. The editor will forward copies to physicians applying for same.

REPORT OF THE SURGICAL SERVICE AT THE MARY FLETCHER HOSPITAL, FOR THREE MONTHS, APRIL, MAY AND JUNE, 1908.

BY

H. C. TINKHAM, M. D.,

Attending Surgeon.

The total number of cases admitted to the surgical service of the hospital during these three months was two hundred twenty-two (222), male 103, female 119.

There were 178 of these cases which had conditions for which it seemed advisable to operate, while 44 cases either came for examination and diagnosis only, or their condition did not require operation, or they refused the surgical treatment advised.

There were 169 of the 178 cases operated on either cured or improved, 2 were unimproved, and 6 died, the percentage of mortality being 3.3 percent. When we take into consideration the fact that two cases of appendicitis and one case of gun shot wound of the abdomen had general peritonitis when operated on, and one case of malignant disease of the cervix was very far advanced and the patient very weak and anaemic and the operation was only done to relieve the patient from disagreeable discharge and hemorrhage, it is only reasonable to consider the mortality without these four cases, in which case we have a mortality of 1.1 percent.

Of the non-operative cases eighteen did not remain for treatment, twenty-one were cured or improved, four unimproved, and one died. The mortality of the cases not operated on remaining in the hospital for treatment being 3.8 percent.

There were many patients who required more than one operation so that the total number of operations done was two hundred forty-one (241)

The surgical diseases or conditions are classified as follows: Appendicitis, 102 cases. 21 of these cases were acute, 11 having abscess, 1 was gangrenous and 9 were acute catarrhal; of the 81 chronic cases 50 existed with other surgical conditions as follows: The uterus or uterine adnexa 43, diseases of the kidney 5, diseases of the gall bladder 1; the remainder coexisted with lacerations of the cervix and perineum.

Hernia, 16 cases. There were 13 cases of inguinal hernias, 2 of femoral, and 1 of ventral following operation, and 2 cases were strangulated.

Gynecological cases, 97, as follows: Disease of the tubes or ovaries 33, uterine fibroma 23, lacerations of the cervix 11, lacerations of the perineum 9, cystocele 2, rectocele 2, endometritis 6, malignant disease of the uterus 4, suspected pregnancy 2, urethral caruncle 2, prolapsed urethra (gangrenous) 1, malignant disease of breast 2. The 33 cases of disease of the uterine adnexa were as follows: Prolapse and cystic ovaries 24, salpingitis 7, hydrosalpinx 1, ovarian cyst 1.

Genito-urinary diseases 26, as follows: Movable kidney 12, cystitis 3 (1 tubercular), varicocele 3, phimosis 3, enlarged prostate 2, urethritis (specific) 1, urethral stricture 1, foreign body in bladder 1.

Diseases of the rectum (hemorrhoids) 4.

Diseases of the gall bladder 4, cholelithiasis 2, cholecystitis 1, malignant disease 1.

There were 10 cases of malignant disease. Of the uterus 4, of the breast 2, of the cervical glands 1, of the thyroid gland 1, of the gall bladder 1, of the femur 1.

There were 17 cases of tubercular disease: Of the cervical glands 4, of the axillary glands 2, of the peritoneum 2, of the hip joint 2, of the knee joint 1, of the bladder 1, of the humerus 2, of the femur 1, abscess of the arm 1, and of the thigh 1.

There were 20 accident cases, of these 8 were fractures as follows: 2 of the leg, 2 of the forearm, 1 of the spine, 1 of the lower jaw, 1 of the patella, 1 of the thumb. There were 2 cases of gun shot wound of the abdomen and 10 cases of minor accidents—sprains, bruises, etc.

There were 23 infected and suppurating cases admitted: 10 appendicular abscess, 4 cases of cellulitis of the hand, 1 case of cellulitis of the leg, 2 cases of empyema, 3 cases of abscess, and 3 of ulcer.

There were 19 miscellaneous cases: Curvature of the spine 4, hare lip 2, spina bifida 1, cut throat 1, lipoma 1, wandering spleen 1, minor surgical conditions 9.

Classification of operations done is as follows: There were 96 appendectomies done, 19 were for acute appendicitis and 77 for chronic. Two cases of acute appendicitis were not operated on, 1 case had general peritonitis being moribund when admitted. This case died two hours later, the

other case was complicated with pregnancy; the appendicitis subsided and the case went on to the full term although it had two other attacks of appendicitis. Of these 96 cases, 94 cases were cured. There were two deaths following operation, giving a mortality of 2 percent. Of the 5 cases not operated on, one died, giving a mortality for the non-operative cases 20 percent. Both deaths which followed operation were from peritonitis which was present when the operation was done. The complications following these operations were two cases of peritonitis already mentioned, both of which died, and one infected wound from gangrenous appendix, this recovered.

There were 36 hysterectomies: 9 complete, 27 supra vaginal. 19 of these operations were for uterine fibroma, 6 were for double salpingitis with endometritis, and 10 for advanced cystic degeneration of both ovaries with serious displacement of the uterus, and 1 for malignant disease of the uterus. Of the 19 cases of uterine fibroma operated on, 7 were complicated by diseases of the tubes or ovaries, 6 with appendicitis, 1 with movable kidney, and 2 had complete procidentia. 34 of the 36 cases made satisfactory recoveries, 2 died of peritonitis, giving a mortality of 5.8 percent. The complications in these cases were 2 cases of peritonitis both of which died, 1 case of infection abscess opened through vagina, and 1 case of phlebitis.

There were 8 ovariotomies, in 4 cases only one ovary was removed, and in 4 cases one ovary and a part of the other was removed. 7 of these 8 cases also had chronic appendicitis. There were no complications or deaths following these operations.

There were 5 nephrorrhaphies, all of these cases were complicated with chronic appendicitis and one case was complicated by having a uterine fibroma. In one case there was an accumulation of serum and the wound had to be opened and drained for a few days.

There were 13 herniotomies, 10 were for inguinal hernias, 2 for femoral and 1 for ventral hernia following operation. In two of these cases the hernia was strangulated. There were no complications or fatalities.

There were 10 amputations: 2 at the hip joint, 2 of the fore arm, 1 of the leg, 2 of toes, and 3 of fingers. Both hip joint amputations were for extensive tubercular disease of the femur, one involving the hip joint with an abscess in the pelvis, the other involving the knee. One amputation of the arm was for injury to the hand and arm by being crushed, and the other for extensive infection of the hand and arm that had resisted treatment by free drainage.

There were 15 operations for tubercular disease: 2 hip joint amputations already mentioned, 6 for tubercular glands, (4 cervical, 2 axillary) 2 for tubercular peritonitis, 3 for tuberculosis of bone (2 of the humerus and 1 of the femur), and tubercular abscesses 2.

There were 7 operations for malignant disease: of the uterus 3, in one of which a hysterectomy was done, and in the other 2 cases the malignant disease of the cervix was too far advanced for extirpation and they were curetted and cauterized. There were 2 excisions of the breast for malignant disease, 1 of the thyroid gland, and 1 of the submaxillary gland.

There were 2 operations for cholecystitis,—one case had gall stones and one did not.

There were 3 laparotomies not included in other classifications: 2 were for gun shot wounds, in one, the bullet entered behind over the right kidney and came out four inches to the left of the umbilicus; it wounded the kidney, went through coecum and made eighteen holes in the small intestine. The operation was performed from twelve to fourteen hours after the accident, the patient died of peritonitis. The other was wounded from front and below, the bullet passing through the os pubis, the bladder, one loop of the small intestine and went into the sigmoid flexure of the colon where the bullet could be plainly felt. This patient was operated on six hours after the accident and recovered. The third was an exploratory laparotomy for what proved to be a tumor of the liver—probably malignant.

There were 13 operations for genito-urinary disease: 2 prostatectomies—1 peritoneal and the other supra pubic; in the latter case there were three pieces of catheter each about two inches long in the bladder; both cases recovered. There were 3 operations for varicocele, 3 for phimosis, 2 for urethral caruncle, 1 for prolapsed urethra which was strangulated and gangrenous, 1 urethrotomy and 1 for cystoscopy.

There were 19 operations for gynecological conditions not already given, 6 for lacerations of the cervix, 6 for lacerations of the perineum (1 complete), 1 for cystocele, 1 for rectocele, 5 for stenosis of the os with endometritis—dilatation and curettage.

There were 20 operations for miscellaneous conditions, 4 cellulitis (3 of the hand and 1 of the leg), 2 for hemorrhoids, 2 for empyema, 3 for abscesses, and 1 each for lipoma, fibroid in hand, steel in hand, cyst in face, exploration of knee joint, spina bifida, hare lip, cut throat and scalp wound.

NON-OPERATIVE SARCOMA: A TREATMENT.

BY

F. L. TOSIER, M. D.,

Washburn, Me.

I take pleasure in reporting two cases of inoperable sarcoma in which Coley's Mixture (Erysipelas and Prodigiosus Toxins) was used with good results.

Case No. 1:—Female, aged 22 years, married, mother of one child—a boy of four years. Since childhood she has enjoyed very good health. Her parents are both dead; the father died of inflammation of the bowels and the mother, according to report, died of general debility due to too frequent childbirths.

The patient first began to feel a sensation of weight in the pelvis about one year ago. Thinking she was pregnant, although the periods appeared at regular intervals, she came to me for treatment. I found a small, soft or boggy growth about as large as a cup on the left side, near the ovary, and surmising that she had a diseased ovary, I kept her under observation during the next three months. The growth at the end of this time had become considerably larger and harder. It was attached to the broad ligament and uterus and was easily movable with the finger in the vagina or rectum. As the growth was giving her much pain I advised operation.

She went to the Lewiston City Hospital. On preparing the patient for operation the condition was found to be so complicated that the surgeon decided to postpone the operation until a microscopical examination could be made of a section of the growth. The microscopist later wrote me as follows: "At the time of the operation they removed only a small piece for me to examine; they were afraid of hemorrhage. The tissue I examined, in frozen section, while the patient was on the table, gave a diagnosis of spindle-cell sarcoma."

It was found that the growth was firmly attached to the broad ligament, ovary, uterus, and intestine. Because of fear of hemorrhage the incision was closed and the patient sent home to live only a short time, as it was supposed. I commenced using Coley's Mixture, (Parke, Davis & Co.), on her return home, injecting at first half a minim in ten minims of sterile water; this gave rise to chills and a temperature varying from 100° to 103°, and a pulse of from 100 to 120—a reaction which I got every day as the treatment proceeded and which became more pronounced at times when the dose was too rapidly increased. I used one-half minim for three days, and then increased this dose to one minim which was given for another period of three days. The dose was thereafter gradually increased as the tolerance of the patient increased, until at last eight to ten minims were administered.

The discharge from the incision, which at first was much like pus, gradually became more serous in character and soon ceased. Thus far the patient has been well; the periods have been regular and normal; her weight has increased nearly sixty pounds; and there has been no return of the symptoms in seven months.

Case No. 2:—Female, aged 71 years, mother of four sons and one daughter—all well and healthy. The previous health of this patient has not been good; her parents had cancer and one brother died of it about a year ago. In this case the growth appeared in the right axilla about nine months ago. I saw the case but, as I could give only an unsatisfactory prognosis, a prominent surgeon was called in consultation; his diagnosis was that of probable cancer.

Thinking that the case would be of short duration as the brother's had been, he having been relieved by death in less than two weeks from the time the growth began to look cancerous, we put the patient upon opiates which, however, were unsatisfactory, and after a time discontinued. Then we took up Coley's Mixture. The pain grew less and on the third day the patient said that she felt very little pain; the eyes looked brighter; the growth became soft, broke, and discharged freely; the discharge grew less and less; and the lesion soon healed. For three months injections were given daily in doses as large as fourteen and fifteen minims; I have

since gradually lessened the dose and administered the serum at longer intervals, as the patient appeared saturated and complained of severe pain at the point of injection. The patient can now eat the usual articles of food with no distress, whereas before treatment she experienced considerable gastric distress; her appetite is very good; she sleeps well; and says that she feels better than she has for five years.

I have three other cases under treatment at present and all are improving.

THE GERM DESTROYER.

Mamma, have you boiled the milk and sterilized my plate?
I thnik there was a germ or two in the last food I ate.
I saw a micrococcus' track upon the pork and beans,
And there were staph'lococci playing leapfrog in the greens.
We ought to have more screens put on—I read just yesterday
The stegomyia fasciata love to romp and play
About a little baby's crib and fill his precious veins
With horrid yellow-fever germs and other aches and pains.

Mamma, have you found time to read it? No? Well, try
To read the latest pamphlet out—"The Battle With the Fly."
I have one in my nursery with colored plates, that shows
The way he carries germs about upon his legs and nose.
The names of them are legion and are ominous to view,
You'd think to carry one of them would break his leg in two,
But he just dips his feet in them, no matter where they are,
And gathers up a million germs and bears them near and far.

Mamma, have you screened the steak, the porridge and oatmeal?
I heard a buzzing sound just then, and for the common weal
Of all of us we must not let a fly go forth to roam
With germs of our—for every one should keep his germs at home.
If you will help me catch the fly we'll lay him down and see
With my small microscope upstairs what colonies there be
Upon the soles of his small feet, and we will sterilize
His feet and legs so he will not do harm to other flies.

Mamma, these are trying times, and I trust you will give
More time to health and hygiene so that all of us may live
Immune from predatory germs, which lurk in every nook;
And you should learn the names of them and how they act and look.
I think, if you'll permit me, now I will vaporize the tea
And put a sterile compress on the prunes and celery,
Till quite immune from typhoid germs and kindred kinds we feel
The blessedness of sitting at a quite aseptic meal!
—J. W. Foley in Saturday Evening Post.

The province of Shansi, China, with a population of over 12,000,000, offers an inviting field to the Christian physician. Dr. W. A. Hemingway, a medical missionary of the American Board, has a small hospital at Tai-ku where he treated 2177 cases last year, besides a large number of dispensary patients. He is not troubled with rivals, the nearest hospital on the north being 35 miles distant, on the east and south 150 miles, while on the west there is none nearer than Persia! With only two Chinese assistants and two native men nurses Dr. Hemingway has accomplished wonders since he went out in 1903. Shansi men are famous all over China for their business ability, especially as bankers. But the entire province, once wealthy, is cursed with the opium habit, and many of its victims come to this hospital for treatment. The price of the drug has doubled lately, thus forcing the poor to abandon its use, and the law is rigidly enforced that the poppy shall not be planted, nor opium brought into the province from outside. Dr. Hemingway is a graduate of the medical school connected with the University of Chicago.

By a bill introduced by Senator C. F. Huffman of Cherokee county, Kansas, an appropriation of $50,000 is provided to build and equip a free state hospital on Mount Oread, Lawrence.

Recently in Montreal, fourteen young men were fined and eight were given an option of a fine of $3 and costs or thirty days in jail for violation of the anti-expectoration ordinance.

University of Pennsylvania has received an anonymous gift of $200,000 through the efforts of Dr. John H. Musser, to be used to endow a department of research in medicine.

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

H. C. TINKHAM, M. D., B. H. STONE, M. D., } .....*Editors.*

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EDITORIAL.

Not the least of the evils resulting from the broadcast, headline publication of the nauseating details brought out in the Thaw trials is the disrepute into which it has brought medical expert testimony. This is well expressed in the following clipped from *The Congregationalist* of recent date.

"One of the pitiable exhibits of the malodorous Thaw case has brought out the worthlessness of some at least of the medical testimony in criminal cases. An expert alienist testified that when Thaw was on trial for the murder of Stanford White that Thaw was a chronic lunatic whose disease might be concealed for extended periods, but was liable to break out unexpectedly. He has now testified that Thaw is not insane, and that he is a proper person to be at liberty. Being asked on the witness stand to explain his change of opinion, he frankly stated that he made his reports for the purpose of assisting the attorney for the defense. In other words he did what he was paid to do. In the former case he was being used to help a criminal to escape from justice, and in the latter to get free from the insane asylum the man whom his testimony had aided to escape the penalty of murder. Such a perversion of authority given by the state and by educational institutions to act as a physician probably cannot be punished by law. But the incident ought to show beyond question that experts qualified to testify in criminal cases should be limited to those appointed and paid for their services by the state. It is unjust to honest physicians to permit one of their profession to sell himself under the protection of the courts."

It seems almost unbelievable that a physician of such national reputation as most of those employed in this case should deliberately and publicly sell themselves and yet the general public is undoubtedly justified in such a verdict. Some of the alienists in the case were consistent and undoubtedly honest in all their testimony yet even their reputation is injured by their associations. Their names are coupled with the others in the mind of the average reader and all are condemned alike. This case only forcibly points out a fault in our court system of which thoughtful men have been aware for a long time. Partisan paid expert testimony must always be subject to the suspicion of partiality and a jury will always look upon the evidence of the doctor who is known to be receiving a large fee from one side or the other in much the same way that they look upon the work of the lawyers in the case, especially must this be so when both sides have experts who go upon the stand and contradict each other. Moreover the position of a physician giving testimony under these conditions is embarrassing. Be as honest and impartial as he may he is constantly conscious that he is being paid and is expected to give value for value received. Such a knowledge must, even without actual consciousness of the fact, warp to some extent an honest judgment. Opinions are bound to be influenced by the point

of view and it would be an extraordinary man indeed who under such circumstances could refrain from emphasizing in his testimony points of value to his client's case and minimizing or ignoring other points of equal weight. Several states are attempting to remedy this state of affairs by appropriate legislation which has this in common that it aims to make the expert a court officer appointed in various ways but always receiving his compensation from the state. Our state has taken a step in this direction by providing that all criminal cases requiring medical or chemical investigation shall be looked after by a state official on a fixed salary. It should go farther and include civil cases as well.

While the tremendous responsibilities of the practice of medicine are being recognized and the minimum requirements for admission to the active ranks of the profession have already been placed higher than those of any other occupation; while a doctor in order to earn his daily bread in the practice of medicine must be not only well versed in the special knowledge of his calling but must be first of all a broadly educated man; while the wage of every other occupation of man from street sweeper to banker has been steadily advancing in proportion to the steady increase in the cost of living medical incomes as a whole have been actually decreasing. These facts in regard to the conditions in New York City have recently been brought to light by a series of inquiries among physicians instituted by the *New York Sun* and are commented on editorially by that paper. In an attempt to analyze the causes the *Sun* mentions various factors as contributory among which are the tendency on the part of the wealthy to travel and take treatment in foreign sanatoria and bath spa, the growth of motoring and the consequent increase in outdoor life, the increase in the knowledge of personal prophylaxis, Emmanuelism, Christian Science and so forth. All of these are undoubtedly contributory causes but we believe that the underlying cause is deeper. The constant struggle to raise higher the scale of municipal sanitation is surely bearing fruit in a lessening sickness rate. This must at first reduce the general practitioner's clientele. We do not believe however that it will in the long run do injury to the finances of the profession. A municipality afflicted with disease can not be a prosperous one and a poverty stricken clientele is not a profitable one. A public free from disease however reluctant it may be to acknowledge the fact, can much better afford to pay the same number of medical men a better living. If there is room for a few less men in general medicine there will be room for more in the specialized branch of preventive medicine. We are on the threshold of an era of transformation in the profession. A new branch of tremendous importance is developing and young men who contemplate studying medicine should realize this. In the readjustment there is bound to be some friction. The general public for instance can not see at once the justice in an increase of professional fees, as has been shown in New York City. They will not voluntarily pay for their greater immunity from disease until they are persuaded that it can be obtained in no other way. This, the profession must teach them. But in the end we believe the better educated, the more efficient physician will be cheerfully paid a better income by a more healthy and prosperous people.

The sociological bearing of some of the recent work which has been done on chronic and latent gonorrhoeal infection is appalling. In a recent article (*Medical Record*) Walbarst reports the results of studies carried on by himself in which he found gonococci present in prostatic secretion in six cases in a series of

fourteen patients who came to him for various causes other than venereal trouble but who gave histories of having had the disease and having been discharged as cured from six months to eighteen years previously. In no case was there any symptoms. In commenting on his results the writer says, "If these figures mean anything they mean that gonococci may persist in the prostate for more than three years, and that a fair proportion of men who have had gonorrhoea and who have apparently recovered, still harbor gonococci in the prostate" * * * . These facts which we understand have been confirmed by others are startling and add still another stigma to the disease which once thought to be a very trivial affection is coming to be recognized as one of the worst in its consequences to the innocent as well as guilty victim to which humanity is heir.

The physicians' national board of regents, an organization which includes in its membership, the secretaries of the various county medical societies, members of state boards of registration, etc., have decided to publish and have on file at every county medical society and available to individual physicians, a national calandar of nurses showing classification and credentials. Ample resources have been provided to insure the execution of this project. On the list will be placed the names of all nurses who are willing to pledge themselves to abide by the instructions of the attending physician and not attempt to play the role of doctor.

These names will be classified as follows:—

1. Commissioned and official nurses. (Those having completed a two years' course or more in a general hospital or training school.)

2. Approved nurses. (Those having completed a two years' course in a special hospital.)

3. Attendant nurses. (Those engaging in nursing, after having had only a theoretical or correspondence course of instruction.)

4. Provisional nurses. (Those having been engaged in nursing for a year or more, i.e., the so-called practical nurse.)

This undertaking has its inception in the fact apparent to many of the leading physicians throughout the country that the medical profession would be obliged sooner or later to exercise its right and privilege of directing and controlling the business of nursing. The immediate impulse to the movement was the growth of the state registration idea which in the opinion of the officers of the society tends to develop wholesale quackery, to create a class of insubordinate nurses with a show of legal authority to apparently justify their claim to equal privileges in directing the affairs of the sick-room, to place the control of nursing in the hands of a few dictatorial persons whose desire seems to be to limit the supply of nurses to hospitals and to so manipulate and elevate prices, as to prevent the poor and the great middle classes, from securing adequate nursing assistance.

The idea of the directory is certainly a good one. We are not quite so sure that state registration of nurses is an unmixed evil.

Bleaching of Wheat Flour.—The ruling against the bleaching of wheat flour in this country by the bureau of chemistry of the department of agriculture has received the indorsement of *The Lancet,* London. "The public," says *The Lancet,* "would be well advised to abandon the fallacious notion that the whiteness of bread is a mark of its quality. On the contrary, it nearly always means an insipid, unpalatable bread, and an attractive flavor is a factor of considerable importance in connection with the digestibility of food. The destruction of the natural color of flour by bleaching agents synchronizes with the destruction of its attractive flavor. Such tampering with the staff of life should be made illegal."

NEWS ITEMS.

A daughter was recently born to Dr. and Mrs. J. G. Thibault of Winooski.

A daughter was born August 7th, in Bristol to Dr. and Mrs. Hasseltine.

Dr. T. B. Cook of Laconia, N. H., was married recently and is now in California.

Mrs. M. G. Wiley who has practiced medicine for years in Laconia, N. H., has retired.

Dr. H. H. Seeley of Richmond has sold his practice and residence to Dr. Jacob Ross.

Dr. Bernard L. Wyatt has returned from Monterey, Mexico to his home in Tilton, N. H.

Dr. G. Coburn Clement of Haverhill, Mass., died at his home of cerebral hemorrhage August 27.

Dr. E. E. Ladd is now in practice in Belmont, N. H. He moved there recently from Plymouth, N. H.

Dr. Lewis Hazen and Mrs. Elizabeth Austin, both of Burlington, were married on September 1, at Hartford.

Dr. H. A. Whitney, U. V. M. '08 of Northfield, Vt., and Bertha M. Hawley were married Wednesday, September 1.

Lachine, P. Q., has been visited with an epidemic of scarlet fever which has been definitely traced to the milk supply.

Dr. Maud E. Taft, Keene, N. H., was recently married to Mr. Arthur J. Kew, formerly of Saint Paul's School, Concord, N. H.

Dr. Edmond C. Burrelle of this year's class U. V. M. medical college has accepted a position in the Massachusetts State asylum, at Meadville.

Dr. R. B. Thomas of the class of 1909 U. V. M. has secured a position with Dr. D. W. Hayes, Canadian Pacific Railway Surgeon at Brownsville Jct., Me.

Dr. Frank B. Foster of Santa Barbara, Cal., has purchased the practice and real estate of Dr. H. M. Morse, Peterboro, N. H. and Dr. Morse has gone to Claremont, N. H., to practice.

Dr. Chas. O. Hunt for twenty-eight years superintendent of the Maine General Hospital and for forty years professor in the Maine Medical School at Brunswick, died suddenly July 24.

Milk Inspector James O. Jordan of the Boston Board of Health has been making trips through New Hampshire and Vermont inspecting dairy farms from which milk is sent to Boston.

Dr. James R. MacGuire of West Rutland, one of the best-known physicians in Rutland County died at the Proctor hospital August 24, following an operation for a cancerous trouble of the stomach.

Dr. J. F. Siler, Medical Corps, U. S. Army, and Chief of Dept. of Tropical Medicine in the New York Post Graduate Medical School has been sent to Peoria, Ill., to investigate the recent outbreak of Pellagra.

Dr. W. C. Doane, an aged practitioner of Elmira, N. Y., died at his home in that city August 2nd, aged 83. He was one of the committee which wrote the first platform for the Republican party in 1855.

Minnesota has recently passed a stringent anti-cigarette law. The law failed to make contraband cigarette paper and tobacco and the result is simply to force smokers of this form of tobacco to roll their own.

Dr. John P. Gifford of Randolph, Vt., was married early in August to Miss Eliza Fulsom. Miss Fulson is a graduate of the Mary Fletcher Hospital training school for nurses and has been for nearly two years head nurse at the Randolph sanatorium.

Dr. H. E. Hasseltine, formerly of Bristol has been assigned to the Buffalo, N. Y., station as assistant surgeon in the Public Health and Marine hospital service. Dr. Hasseltine has until lately been attached to the medical reserve corps of the U. S. A.

Chicago is to have an institution for medical research, similar to that founded within recent years in New York by John D. Rockefeller. The new institution is the gift of Mrs. Nelson Morris, widow of the packer, and the sum of $250,000 which is needed for the erection and to complete the furnishing of the hospital has been given by her as a memorial to her husband.

The annual meeting of the Lamoille County Medical association was held at Morrisville, July 29, and the following officers were elected for the coming year: President, Dr. George L. Bates of Morrisville; vice-president, Dr. H. W. Barrows of Stowe; secretary and treasurer, Dr. W. M. Johnstone of Morrisville; censors, Dr. W. M. Johnstone, Dr. J. C. Morgan of Stowe and Dr. J. H. Newton of Cambridge; auditor, Dr. George L. Bates; delegate to State convention, Dr. A. J. Valleau of Morrisville.

The eleventh annual meeting of the American Proctologic Society was held at Atlantic City, N. J., June 7 and 8, 1909. The following officers were elected for the ensuing year: President, Dwight H. Murray, M. D., Syracuse, N. Y.; Vice-president, T. Chittenden Hill, M. D., Boston, Mass.; Secretary-Treasurer, Lewis H. Adler, Jr., M. D. Philadelphia, Pa. Executive Council, Geo. B. Evans, M. D., Dayton, Ohio. Chairman; Dwight H. Murray, M. D., Syracuse, N. Y.: Louis J. Hirschman, M. D., Detroit, Mich.: Lewis H. Adler, Jr., M. D., Philadelphia, Pa.

The place of meeting for 1910 is St. Louis, Mo. Headquarters: Planters Hotel, June 6 and 7, 1910.

The following were elected fellows of the Society: Dr. Chas. S. Gilman, 419 Boylston St., Boston, Mass., Dr. Donley C. Hawley, Burlington, Vt., and Dr. Frank C. Yeomans, 19 E. 45th St., New York City, N. Y.

The following are those who passed the mid summer examination of the Maine Board of Medical Registration: William G. Whitmore, Sidney E. Pendexter, Herbert E. Thompson, Peter W. Litzell, Henry W. Ball, Portland; John L. Murphy, Lewiston; Harold A. Wood, Skowhegan; Clarence R. Simmons, Appleton; Horace E. Doughty, Hollis; Hugh F. Quinn, Bangor; Frank E. Carmichael, Ann Harbor; Willard H. Bunker, Red Beach; Ivan Staples, Limerick; Henry W. Abbott, Waterville; Frank O. Cass, Boston; George I. Higgins, Clinton; William P. Gemmill, Baltimore; James F. Cox, Houlton; Melcher S. Estromer, Cambridge; John M. Burgland, Baltimore; George D. Kingman, George P. Dunham, Lawrence; Warren B. Sanborn, Augusta; Irving E. Maybury, East Hiram; Barzilla M. Hutchinson, Mishawaka, Ind.; Walker I. Merrill, Portland; Ira C. Dyas, Boston; Elizabeth B. Shelberg, Poughkeepsie; William W. Vandolsen, Paterson, N. J.

All but five of the 34, including one woman, passed and have been given certificates to practice medicine.

Dr. W. Scott Nay of Underhill, secretary of the Vermont State board of medical registration, announces that the following physicians successfully passed the examinations held by the board at Burlington, July 13, 14 and 15, and that they are entitled to practice their profession in this State:

Jane North Baldwin, Rutland; Howard D. Brooks, Burlington; Samuel J. Bennett, Waterloo, P. Q., Josiah Coburn, Hopewell Junction, N. Y.; Eldridge A. Carpenter, Boston, Mass.; Ernest M. Cleasby, Orleans; Eugene J. Cray, Bellows Falls; Herbert A. Durham, North Hero; Leon B. Gordon, Mt. Holly; Fred M. Hollister, Burlington; Perley A. Hoyt, Hardwick; George I. Hemingway, Burlington, N. J.; Joseph J. Lordi, Dorchester, Mass.; John D. Lane, Hoosick Falls, N. Y.; Leslie E. McKinley, Burlington; Walter W. Parmalee, Burlington; Edward F. Phelan, Ludlow; Jonathan H. Ranney, Pittsfield; Gilbert F. Rist, Burlington; Edward B. Riley, Dorchester, Mass.; Isaac P. Sharon, Burlington; Edward P. Teague, New York, N. Y.; Ralph B. Thomas, Brownsville Junction, Me.; Carl W. Woods, St. Johnsbury; Bernard L. Wyatt, Tilton, N. H.; Daniel F. Winter, Jr., Pine Hill, N. Y.; Charles B. Warren, Ogdensburg, N. Y.; George R. Westbrook, Brooklyn, N. Y.

The Eleventh Annual School of Instruction for Health Officers was held in the Kellogg-Hubbard Library, Montpelier, August 23rd to 26th inclusive with the following program:

MONDAY EVENING, AUGUST 23, 8.00 O'CLOCK.

OPENING SESSION.

Address of Welcome: Mayor.
Address: Charles S. Caverly, M. D., President of the State Board of Health.
Address: Governor Prouty.
Address: Walter Hill Crockett, Esq., Montpelier.

TUESDAY MORNING, AUGUST 24, 9.30 O'CLOCK.

Paper: "Ventilation of Public Buildings," by Prof. J. W. Votey, Sanitary Engineer of the Board.
Discussion: W. T. Slayton, M. D., Morrisville; S. K. Gray, M. D., Arlington.

Paper: "Pure Food and Drugs," by John A. Kober, M. D., Professor Georgetown University, Washington, D. C.

Discussion: Walter L. Havens, M. D., Chester; D. C. Noble, M. D., Middlebury.

Tuesday Afternoon, August 24, 2.00 O'clock.

Paper: "Duties of Health Officers," by C. O. Probst, M. D., Secretary Ohio State Board of Health and Secretary American Public Health Association.

Discussion: C. W. Peck, M. D., Brandon; H. H. Seeley, M. D., Richmond.

Paper: "Notes on Vermont Waters," by C. P. Moat, Chemist State Board of Health.

Discussion: Arthur Morton, M. D., St. Albans; C. F. Ball, M. D., Rutland.

Tuesday Evening, August 24, 8.00 O'clock.

Lecture: "Tuberculosis," illustrated with lantern, by J. H. Huber, M. D., New York City.

Discussion: C. E. Clark, M. D., Professor of Pathology, U. V. M.; W. N. Bryant, M. D., Ludlow.

Wednesday Morning, August 25, 9.30 O'clock.

Paper: "Pure Water and Air," by Prof. John A. Kober, M. D., Professor Georgetown University, Washington, D. C.

Discussion: G. F. B. Willard, M. D., Vergennes; H. H. Swift, M. D., Pittsford.

Paper: "Vital Statistics," by Cressy L. Wilbur, M. D., Chief Statistician, Census Bureau, Washington, D. C.

Discussion: T. C. Merrill, City Clerk, Montpelier; J. S. Mackay, City Clerk, Barre.

Wednesday Afternoon, August 25, 2.00 O'clock.

Paper: "Infectious Diseases," by David D. Brough, M. D., Medical Inspector, Boston Health Department.

Discussion: R. M. Pelton, M. D., Supervisor of Insane, Richford; J. L. Breitling, M. D., Lunenburg.

Paper: "Sewage Disposal," by Prof. John W. Votey, Sanitary Engineer of the Board.

Discussion: Edward R. Clark, M. D., Castleton; W. A. Young, M. D., Westfield.

Wednesday Evening, August 25, 8.00 O'clock.

Paper: "Observations from the Daily Work of a Milk Inspector," by J. O. Jordan, Ph. D., Milk Inspector, City of Boston.

Discussion: H. L. Stillson, Esq., Bennington; H. S. Wilson, State Cattle Commissioner, Arlington.

Thursday Morning, August 26, 8.00 O'clock.

Paper: "Legal Points in Health Work," by Hon. Robert A. Lawrence, Rutland.

Question Box: Questions must be handed to the Secretary before 8.00 o'clock, Wednesday evening. Write plainly.

Discussion by the audience.

BOOK REVIEWS.

Why Worry?—By George Lincoln Walton, M. D., Consulting Neurologist to the Massachusetts General Hospital. J. B. Lippincott Co., Philadelphia and London. 1909.

Why Worry?—It should be read by every one who "worries." Physicians would do well to prescribe it to their patients who are always looking for the worst in life. It will do them good.

This book is a concise but not technical discussion of worry, including its causes and treatment.

The American Pocket Medical Dictionary.—Edited by W. A. Newman Dorland, M. D., editor "The American Illustrated Medical Dictionary." Sixth revised edition. 32 mo. of 598 pages. Philadelphia and London: W. B. Saunders Company, 1909. Flexible Morocco, gold edges, $1.00 net; thumb indexed, $1.25 net.

Dorland's Medical Dictionary is too well and favorably known to need any comment. This new sixth edition of the pocket dictionary has been brought up to date and is a most useful book for medical students, and a great convenience for the physician's desk.

Human Physiology, New-World Series, An Elementary Text-Book of Anatomy, Physiology and Hygiene. Edited by John W. Ritchie, illustrated by Mary H. Wellman. World Book Company, Yonkers-on-Hudson, N. Y.

This is an admirable book for grammar school work. It covers all the essential facts of physiology in a way that can be understood by children. There are many practical ideas introduced that are both unique and useful in a textbook of physiology for public schools.

Essentials of Chemistry, Organic and Inorganic. Including Physics, Chemical Philosophy, Medical Processes, Toxicology, etc.—By Lawrence Wolff, M. D., formerly Demonstrator of Chemistry at the Jefferson Medical College, Philadelphia.

Seventh edition. Revised by A. Ferree Witmer, Ph. G., formerly Assistant Demonstrator in Physiology, University of Pennsylvania. 12 mo. of 225 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, $1.00 net.

This question compend is a series of questions and answers covering the principal parts of the subject of Chemistry. It is intended to be a help to the student in mastering this difficult subject, and the practical way the subject is treated must be of service to students of Chemistry.

Bier's Hyperemic Treatment in Surgery, Medicine and the Specialties: A Manual of Its Practical Application.—By Willy Meyer, M. D., Professor of Surgery at the New York Post-Graduate Medical School and Hospital; and Professor Dr. Victor Schmieden, Assistant to Professor Bier at Berlin University, Germany. Second Revised Edition. Octavo of 280 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, $3.00 net.

The second edition of this book follows very closely the first. The text has been revised, some additions have been made and brief histories of interesting cases have been introduced. This book gives a careful discussion of the advantages this form of treatment has in treating the various forms of disease and the general rules for its application to each. We can recommend this book to any one wishing to become familiar with the application of this treatment.

The Principles of Pharmacy.—By Henry V. Arny, Ph. G., Ph. D., Professor of Pharmacy at the Cleveland School of Pharmacy, Pharmacy Department of Western Reserve University. Octavo of 1175 pages, with 246 illustrations, mostly original. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, $5.00 net; Half Morocco, $6.50 net.

This is an admirable book for students of pharmacy, or for the dispensing pharmacist. The chapter on prescription writing might be read with benefit by physicians. The author has succeeded admirably well in producing a textbook with clear description but not verbose, a well illustrated and readable book.

Diet in Health and Disease.—By Julius Friedenwald, M. D., Professor of Diseases of the Stomach in the College of Physicians and Surgeons, Baltimore; and John Ruhrah, M. D., Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Third revised edition. Octavo of 764 pages. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, $4.00, Half Morocco, $5.50 net.

"Diet in Health and Disease" is a treatise on Chemistry and Physiology of digestion, foods and their nutritive value, beverages, stimulants, special methods of feeding, and the diet best adapted to the various forms of disease. It also has about 30 pages of recipes for foods and beverages for the sick. It is a specially useful book for reference for the physician.

OPEN LETTER.

Dear Doctor:—

A meeting of physicians and surgeons interested in Scientific Clinical Research is called for Wednesday, October 27, 1909, at John Ware Hall, Boston Medical Library, No. 8 Fenway, Boston, Massachusetts. The meeting will come to order at 10 A. M., and carry its sessions through Wednesday, and, if necessary, through Thursday and Friday.

The object of the meeting is,

First, to establish an American Association of Clinical Research;

Secondly, to establish clinical research on an incontrovertible scientific basis in hospitals; and

Thirdly, to institute an American Journal of Clinical Research, in which the work of members of the American Association and of others doing clinical research work in a scientific manner shall be published.

You and your friends are herewith cordially invited to participate in this meeting and in the proposed movement of scientific clinical research.

This invitation is extended to all physicians and surgeons whose interest goes beyond the immediate case work of ordinary clinical societies; and it is hoped that the invitation will be accepted by all medical practitioners, irrespective of their present medical affiliations, who can appreciate the necessity for establishing on an incontrovertible scientific basis the certainties and limitations of the present practice of medicine and surgery before attempting to add to the already large and cumbersome field of medicine.

The American Association of Clinical Research is not intended to disturb the present medical affiliations of its members nor to interfere in the very least with the duties they owe and the privileges they enjoy by virtue of their

affiliation with any existing national medical body.

The American Association of Clinical Research is to take cognizance of the fact that the clinic requires cold facts and conclusive methods, and upon these fundamental requirements, the structure and the work of the American Association of Clinical Research are to be built.

It is of the utmost scientific importance to establish conclusively all that is at present true in medicine and surgery, and only upon such proved knowledge, to base any further advancement. The clinic deals with clinical entities and not, like the laboratories, with parts as entities. Therefore, clinical research differs, and must differ, from experimental laboratory researches. Clinical research must consider clinical entities, and when considering parts, it must consider them only as parts and not as wholes. All that subserves the object of obtaining and investigating clinical facts and principles belongs to clinical research and the laboratory is a part of the means of clinical research, but only a part.

The crux of the matter appears to be that experimental laboratory proof is not sufficient clinical proof. In order to advance in an irresistible line, clinical research must be based on a conclusive form or method of clinical proof. In experimental proof, we dislocate a part from a whole and attempt to prove the whole from the part, as though a dislocated part could always prove the whole. Or, we attempt to prove facts in one species by facts in another species, as though the two species were identical. For instance, the experiments made on animals to elucidate certain elements of fever bring out a fact of almost insurmountable difference between man and the lower animals, the fact that man has associated with the nakedness of his body a highly perfected power for regulating his temperature, a highly developed vasomotor system and a vast array of sweat glands, a characteristic complex of things which apparently no other species of animal life presents. Experiments made on animals to prove febrile or other clinical phenomena in man, may be suggestive, but for obvious reasons cannot be conclusive. To prove observations in man, the observations must be made on man and not on animals. But observations on man even are not necessarily conclusive. Individual observations on man cannot be conclusive, because the same experience cannot be repeated, and when we prove by numbers, we compare similar but not identical experiences. Analogy is not conclusive proof. Identity alone is conclusive proof; but since, in medicine, identical experiences cannot be repeated, we must provide simultaneous identical experiences in order to have proof by identity. Clinical proof is conclusively established when all observations and experiments are made conjointly by at least two competent men, preferably of opposite ideas, at the same time. Conjoined critical observation and experiment, at the bedside and in the laboratory, as may be required, furnish simultaneous identical experiences, the proof proceeding on the principle that a whole can be proved only by the whole and not by dislocated parts.

These and other weighty questions await your assistance for a necessary solution. The benefit that will accrue, both to medicine in particular and to the medical profession and humanity at large in general, from a satisfactory establishment of scientific clinical research, can be easily surmised. Come prepared, yourself and your friends, to give to this matter your mature convictions and your personal assistance. Only from a critical interchange of critically acquired opinions, can we hope for clearness and for the clarification of the medical atmosphere now charged with confusion and indifference.

Your communication, indicating your interest and your expectation of being present at the meeting in Boston on October 27, next, is eagerly awaited, and on receipt of the expression of your interest, further developments will be communicated to you personally in due time.

Please address your communications at the earliest possible date directly to James Krauss, M. D., 419 Boylston Street, Boston, Massachusetts.

Yours fraternally,

Signed: James Krauss, M. D.,
Chairman Committee American Association Clinical Research.
419 Bolyston Street, Boston, August 18, 1909.

A little Swede boy presented himself before the school-ma'am, who asked his name. "Yonny Olsen," he replied. "How old are you?" asked the teacher. "Ay not know how old ay bane." "Well, when were you born?" continued the teacher, who nearly fainted at the reply: "Ay not born at all; ay got stepmutter.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

INSANITY, RESPONSIBILITY, AND PUNISHMENT FOR CRIME.

James J. Walsh, M. D., Ph. D., L.L. D., of Fordham University School of Medicine, in the *American Journal of Medical Sciences*, August, 1909, says that it is impossible to give a rigid definition for sanity and insanity, as it is for physical health or ill-health. There are so many different elements to be considered, so many fine gradations from one condition to the other, and the personal equation is so important, that no definite formula can be given that shall clearly separate sanity from insanity.

This vagueness regarding what constitutes insanity furnishes a ground for defense for persons who have committed crimes, and at the present time renders their conviction, even in murder cases, very difficult when the defense is insanity. For this condition physicians have been commonly blamed, but it seems that the legal fraternity has often departed from the spirit and letter of the oath to aid in the securing of justice.

The question of a person's responsibility for his actions is a complex one, and in order to make punishment efficient the criminal as well as the crime should be considered. The old idea of punishment was of revenge, but the present aim is two-fold, first, to prevent the criminal from committing other crimes, and secondly, to deter others from similar offenses. That punishment does tend to prevent wrong-doing, even in those whose reasoning powers are not highly developed, is evidenced in the case of children. A normal child, or even one somewhat defective in mentality, can be made to abstain from certain acts by the knowledge that punishment will follow. Again, a dog, cat, or other animal can be taught that certain things must or must not be done. Among people defectives occur, somewhat resembling the animals in their lessened power of resisting impulses, and these defectives require greater rather than less strictness of supervision. Many of the sub-rational have cunning enough to realize their queerness, and to rely on it as an excuse for misdeeds.

A man who has killed another, even if his responsibility be questionable, should be confined for life, both to prevent him from other crimes, and as an example to others. Dr. Walsh sums up his conclusions as follows:

1. The term insanity is so vague that its use as a plea to enable the criminal to escape punishment is not justified in the present state of our knowledge.
2. Responsibility differs in different individuals, but is never quite eliminated except in the absolute idiot. For those of lowered mentality, even the animals, punishment has a good effect.
3. Punishment is not revenge, but is meant to deter the individual criminal, and above all to deter others tempted to criminal acts.
4. Punishment is more needed for those of lowered mentality, of whom the expert may well declare that they are insane, than it is for the normal.
5. Subrational individuals with the cunning of the insane will take advantage of our leniency if present conditions are allowed to continue, and we shall have a riot of crime by personal violence.

THE PROBLEM OF CANCER CONSIDERED FROM THE STANDPOINT OF IMMUNITY.

Frederick P. Gay, M. D., of the Harvard Medical School, in the *Boston Medical and Surgical Journal*, August 12, 1909, discusses the experimental work that has been done upon animals in the study of cancer, and the bearing that the results may have upon the treatment of cancer in man.

There are various theories as to the etiology of cancer. Different organisms have been assigned as the cause, as the micrococcus neoformans of Doyen, as well as yeasts and protozoa. Other observers have believed that there were certain abnormal constituents in the blood, which favored tumor growth, or again that the absence of some normal substances allowed the growths to occur. This last theory has led to the attempt to supply the lacking element by the injection of human serum, of trypsin, or of other ferments. Albrecht and Erlich conclude that cancer cells have a greater affinity for nutritive substances than have the normal cells, hence they grow faster.

While none of these theories is accepted it is pointed out that rabies and smallpox are diseases that are preventable, sometimes curable early, by inoculation or vaccination, even though their exact etiology remains unknown. Regarding the possibility of producing immunity to, or of curing, cancer, it is important to note that both benign and malignant tumors have been reported as disappearing spontaneously, while the transmissible tumors of animals frequently disappear after growing for some time.

Before any extensive study of experimental tumors in animals had been made there had been several empirical attempts to develop a cancer specific. Some malignant tumors have seemed benefited by the use of Coley's serum. The serum of immunized animals has also been tried, but with very little or no success. Within the last few years extensive experiments have been made upon animals by different persons. Spontaneous tumors have been found fairly common, and some of these have proved transmissible under certain conditions, though wide differences in susceptibility occur, even in the same species, while but very rarely can a tumor be transmitted from one species to another. In different generations tumors have been known to change structure, a carcinoma giving rise to sarcoma and vice versa.

A large percentage of animals seem to have a natural immunity to the tumor, in others it will grow for a time and later become resorbed, after which the animals are usually immune to further tumors. It appears that the growth of a tumor in an animal may be divided into two periods or phases, the first being pre-metastatic while the second begins when metastasis occurs. In the animals used this first period seems to last about thirty days. The author has found that if, during this pre-metastatic phase, a second tumor implantation be made, it would not grow, and moreover that the first tumor, already growing, would disappear in nearly all cases. If the inoculations were deferred till the second phase both tumors would grow. These facts correspond somewhat to what is known of the treatment of rabies, which may be cured by successive inoculation at any time until some three weeks after the original infection; this three week period would seem to correspond to the pre-metastatic phase of tumor growth.

Dr. Gay concludes that during this pre-metastatic period the animal produces reaction products to the cancer tissue, and that in those cases where resorption occurs the body resistance has overcome the cancer. Moreover, from the animal experiments it seems that during this period of reaction the bodily resistance can be augmented by inoculations of the tumor or possibly of tumor products. These facts furnish a suggestion for a possible line of treatment for cancer in human beings.

"THE USE OF SPINAL ANESTHESIA IN RECTAL SURGERY."

Collier F. Martin, M. D., Philadelphia, Pa., in a paper before the American Proctologic Society reported 87 cases in which tropacocain and stovaine were employed. The technic was given in detail. The method is not recommended where the hips of the patient have to be elevated.

Of the 87 cases, 57 were either frankly tubercular or the condition was suspected, 16 were alcoholics, 4 had anemia with from 35% to 60% of hemaglobin, 2 had sepsis, 2 cachexia, 2 were suffering from general debility and old age, 3 had cardiac complications and one refused to take ether.

The conditions operated upon were as follows: abscess and fistulae 54, hemorrhoids 21, rectal stricture 2, sacral sinus 1, fissure with fistula 2, gangrenous cellulitis 2, anal condylomata 2, rectal carcinoma (perineal excision) 2, and Ball's operation for pruritus ani 1.

The only complications observed were headache 18 times, coming on from 1 to 3 days after operation. Only three cases had severe headache lasting over one or two days. A few cases complained of some stiffness of the back of the neck and shoulders. One patient developed a temporary oculo-motor palsy which recovered under treatment. In two cases spinal fluid was not obtained because of the difficulty in inserting the needle with spinal deformity present.

Spinal anesthesia was selected in cases with pulmonary tuberculosis to avoid the congestion following the use of ether. Alcoholics were also found easier to manage than when ether was used.

Under spinal anesthesia, the sphincters are completely relaxed, there is no muscular spasm and there is an entire absence of the venous engorgement and swelling of the tissues so often seen while the patient is under ether. Bleeding is not as profuse and is more easily controlled, since all parts of the rectal cavity are as accessible as their anatomy will permit. The complete muscular relaxation reduces the traumatism to the tissues.

Spinal anesthesia is at its best when used in operations about the rectum and genito-urinary tract. Careful selection of cases, drugs of uniform strength and purity, and a careful technic will do much to re-establish the confidence of the surgeon in this method of producing anesthesia.

"TREATMENT OF PRURITIS ANI, WITH A CONSIDERATION OF ITS PATHOLOGY AND ETIOLOGY."

William M. Beach, A. M., M. D., of Pittsburgh, Pa., in a paper before the American Proctological Society draws the following conclusions:

1. That pruritus ani occurs in mild and severe forms; mostly in middle life; the mild type with simple pruritus, the severe type with marked eczema and skin changes.

2. Certain aberrations in general metabolism, or in adjacent structures are simply incidental and should be considered as complications.

3. Intra-rectal growths, as hemorrhoids, adenomas, etc., or the presence of parasites are contributory.

4. The distinct pathogenesis of pruritus ani consists of single or multiple burrowings from the anal pockets, emitting a serous or sero-purulent substance, which sinus may be complete or blind and is always accompanied by proctitis, and frequently by cryptitis, and small ulcers at the ano-rectal line.

5. These sinuses when complete are the sequelae to an abscess history, but the origin of the blind recesses is in doubt, and yet it is not unlikely due to an infection by the colon bacillus.

6. The treatment is surgical for the purpose of obliterating the sinuses, correcting a rigid sphincter when necessary, and curing the proctitis and ulceration.

7. Gastro-intestinal and general metabolic disturbances must be met by rational measures.

"PRURITUS ANI, ITS ETIOLOGY AND TREATMENT."

T. Chittenden Hill, M. D., of Boston, Mass., in a paper before the American Proctological Society said that he was convinced that pruritis ani was practically always caused by some local lesions of the pelvic colon or rectum, which produced an unnatural moisture about the anal region.

He said the most common sources of irritation, in the order of their frequency, were as follows: (1) Superficial ulcerations and abrasions of the anal canal. This lesion he found in about 75% of all cases and attributed the frequency of its occurrence to the method of fusion of the proctodeum with the blind end of the bowel. (2) Rectitis and sigmoiditis, which are the sequellae of habitual constipation, often bring about a pruritus, since the passage of flatus allows a small quantity of mucus to escape. (3) Hypertrophied anal papillae and inflammation of the crypts of Morgagni are more often the cause of pruritus ani than is generally admitted. (5) Small polyps of the anal canal, protruding internal piles, prolapse of the rectum and anal fissure, do occasionally produce itching about the anus, but it is exceptional to find them the sole cause of chronic pruritus ani.

He stated that in order to attain permanent results, it was essential that the treatment be directed to the removal of the exciting causes. At the same time the skin in the immediate vicinity of the anus should receive appropriate treatment since it is nearly always in a state of acute inflammation from scratching or so much infiltrated and thickened as to require stimulating applications,—nitrate of silver and ointments, in order to bring about a return of a normal epidermis.

"ABDOMINAL MASSAGE IN THE TREATMENT OF CHRONIC CONSTIPATION, ETC."

T. L. Hazzard, M. D., B. S., Pittsburgh, Pa., in a paper before the American Proctological Society referred to the fact that general massage had been practiced from very ancient times until the present for the relief of fatigue and for the purpose of increasing the flow of fluids in the blood-vessels, the lymph spaces and juice canals, by which more perfect elimination of waste is obtained and better as-

similation brought about. Two conditions which, in his opinion the relief of will do away with two-thirds of the slight ailments as well as of some of the more serious ones. He began massage for the relief of chronic constipation and was much surprised to find the far reaching, adventitious effects produced. Among others, for example, that the chalky deposit in the joints in articular rheumatism, under careful, patient, persistent manual therapeutics as applied to the bowels, will entirely disappear more often than not.

Mentioned no particular method, saying that any good text-book would give the technic sufficiently well. This manipulation is recommended not only for chronic constipation, but also for the relief of coprostasis for which operation it is very frequently done.

After indicating more of the benefits and some of the dangers of the method, the writer said that if this treatment called for more time than the physician or surgeon could spare, it had better be left off altogether, although the patient would surely lose a very great benefit. The paper closed with the remark that doubters as to the very great advantages which will accrue to the sick, in many, many ailments, have but to practice careful and intelligent massage to be convinced.

"INTESTINAL AUTO-INTOXICATION: ITS TREATMENT BY IRRIGATION."

WM. L. DICKENSON, M. D., Saginaw, Mich., in a paper before the American Proctological Society said: During normal digestion, there are present in the intestine peptones, crystalline bodies, aromatic substances and ptomains, which are toxic, but changed into less toxic bodies and eliminated by the stools. Whenever their number is very great, relief is obtained by a profuse intercurrent diarrhea, while the remaining toxic bodies, having been acted upon partially by the digestive mucosa, are changed in the liver, then enter the circulation, and being further changed by the antitoxic glands, finally are eliminated through the skin, kidneys and lungs.

Many patients have suffered for years, and perhaps the greater part of their lives from constipation, and the condition has been aggravated as they have grown older and more sedentary in their habits.

There are well marked symptoms in the auto-intoxicated. Among the prominent are:—a drawn expression; sunken eyes; frequently the so-called liver spots; often the patient is pot-bellied and the skin is dry and harsh; it is quite common to have the bowels greatly distended by gases, shortly after meals, necessitating the loosening of the clothing; the breath is frequently very offensive; the odor of the stools is sickening, while the stools are constipated, hard, lumpy, and of small caliber or semi-liquid and mushy, and upon examination mucus and membranes are found. Patients are often unable to concentrate their thoughts, and there is loss of memory. There is great fatigue, and depression of spirits. Pruritus, urticaria, eczema or furunculosis caused by intestinal auto-intoxication may be present.

These are not all the symptoms that may arise from intestinal auto-intoxication but they are sufficient to emphasize the importance of the subject, and the necessity of having the intestinal discharges examined by a competent person before and during the treatment of the patient. An examination of the urine to determine the amount of urea.

Brete Harte once characterized the ways of the "heathen Chinee" as "peculiar." In nothing are his peculiarities more manifest than in the treatment of bodily ills. The only hospitals in the empire are those connected with the foreign mission boards, or organized through their influence, and the physicians in charge have many amazing and amusing illustrations of Chinese ideas and methods. For instance, a boy bitten by a mad dog was lately brought to an American Board hospital by his parents who proudly informed the doctor, as proof that they knew precisely what to do, that they had caught the dog, pulled out some of its hair and steeped it in oil. This pleasant brew was then rubbed into the wound. Shades of Pasteur! Another patient was a man who became angry because the boil on his arm would not heal. He snatched up a great cleaver and gave it a slash. Months later he came to the mission hospital where amputation was advised. He refused and, though the arm healed, skin grafting had to follow and the arm is useless, the cleaver having severed tendons and nerves. These are common, everyday illustrations of the unlimited field of service offered to a medical man in China today.

SENATOR GORE of Oklahoma is given credit for this story, told on his recent visit to a Methodist convention at St. Joseph. It is related by the Rev. Mr. Williams, pastor of the Baptist church of Pleasant Hill, who happened to hear it.

According to Senator Gore there was an accomplished hen with a brood of chickens—five roosters and five pullets. The chicks matured and went their various ways while the mother hen busied herself with a new brood. In course of time Methodist ministers came into the vicinity of Chickenville to hold a conference and, as might be suspected, the five young roosters, fat yellow-legged, and extremely tender, were feasted upon by various and sundry preachers. The young pullets, left behind, were met by the mother hen a day or so later. "My children," she asked, "where are your brothers?"

"They have entered the ministry."

Bracing herself from the shock of disclosure a look of resignation spread over Biddy's countenance as she replied:

"Well, my dears, perhaps it is all for the best. They would not have made very good lay members, anyway."—*Daily News.*

Medical missionaries in China say that the natives will bear without flinching a degree of pain from which the stoutest of us would shrink in terror. A woman in Shao-wu, afflicted with an ulcer of the leg, was treated by a native "doctor." One day he came to the mission hospital to show the physician in charge a "string" which he calmly announced he had pulled from the wound. It was the sciatic nerve! To people suffering from such barbarous methods, and to whom anaesthetics are unknown, the merciful methods of foreign doctors in the mission hospitals seem like miracles.

Napoleon and the Itch.—Napoleon, by many standards, one of the world's greatest men, suffered from two very vulgar affections, namely scabies (the itch) and hemorrhoids. It is stated on competent authority that both these affections were in a very aggravated condition on the eve of and on the day of Waterloo, preventing the illustrious patient from clear and rapid thinking, and thus probably contributing to a defeat which had a most momentous effect on the history of the world. The mind is powerful and can, in many instances, control the body; but the reverse is also true: a physical ailment, particularly a painful one, can disturb the mind and cloud the judgment.—*Exchange.*

The Pesky Flies.—The flies, the flies, the pesky flies, they crawl upon the bread and pies, and on each bite of food we eat they wipe their nasty, dirty feet. They buzz around defying foes, they dance upon your face and nose, and then without apparent fear they dig and tunnel in your ear. They light upon your hairless head at early dawn when you're abed. They fly and frolic everywhere and make the housewives almost swear. They fall down in the crock of cream, and life to them is one sweet dream; they get mixt up in the raisin cake and all the housewife tries to bake; they drop down in the coffee cup and in the 'lasses get mixt up. With nimble feet and active wing they leave their germs on everything, and then their presence they explain with dots upon the window pane. Then bring the swatter forth and swat, and teach the flies they mustn't dot; bring out the sticky paper sheet that nabs the insects by the feet and holds them struggling for their breath until they die a lingering death. But do not use that ancient trick and dope the flies to make 'em sick, for this will cause them, as they say, to dot their little lives away.—*Charles Bliss, Medical World.*

A Simple and Effective Treatment for Boils.—Dr. George Thomas Jackson, Prof. of Dermatology in the College of Physicians and Surgeons (Columbia), New York, outlines a method for treating boils which he states—and we agree with him—is simple, safe and effective (*Amer. Jour. Med. Sciences,* June, 1909). All that is necessary is a little stick sharpened to a fine point, a little absorbent cotton, liquefied carbolic acid (i. e. 95 per cent.) and a 5 or 10 per cent. ointment of salicylic acid. As soon as the boil has pointed (and it usually has when the patient comes to us,) a small bit of cotton is wound about the pointed stick, dipped in the carbolic acid, and bored into the softened point of the boil. This allows the pus to escape and thoroughly disinfects the cavity of the boil. The boil is not to be squeezed. The surface of the skin in the neighborhood of the boil is then washed with H_2O_2 or a solution of corrosive sublimate, 1 in 1000, and the salicylic acid ointment spread on washed rags or several thicknesses of gauze, laid over the boil and the adjacent skin. And that is, as a rule, the end of the boil. If it is a very large boil, the operation may have to be repeated the next day. The ointment is to be kept constantly on the affected part for a week. Dr. Jackson denies that boils or furunculosis have a constitutional basis.—*Critic and Guide.*

Ingrowing Toe-nails, Treatment for.—Dr. W. Stoeckel, Marburg, describes the operation as follows: Twenty-four hours previous to the time of operation the foot and toes are thoroughly scrubbed with tincture of green soap, after which the nail is trimmed straight across its free border and the surface exposed and thoroughly cleaned. Tincture of iodin is now applied around the entire margin of the nail and a 1-2000 bichlorid of mercury dressing applied. At the time of operation, the parts are again scrubbed thoroughly. Hæmorrhage is controlled by a rubber band around the base of the toe and local anæsthesia obtained by injection of a weak cocaine solution. With a sharp scalpel

the nail is split down its center and to the bone; the next step is the freeing of the matrix and lateral border of the nail by an incision down to the nail almost three-sixteenths of an inch from the lateral border extending back beyond the base. The scalpel is carried along the outer border which is lifted up and the scalpel is directed close to the bone under the matrix, to within one-quarter of an inch of the median line. The freed lateral border is then elevated with the handle of the scalpel and the matrix beneath is removed and the sides elevated are allowed to rest on the healthy tissues. A strip of gauze is inserted underneath the edge and a wet dressing of magnesium sulphate applied. For a few days the foot should not be used. The advantages of the operation seem to be that of simplicity, radical cure, minimum tissue destruction and decreased suffering from pain, rapid restoration of the normal condition of the tissues and short period of convalescence.—*New York Medical Journal,* February 20, 1909.

ANNUAL MEETING OF THE VERMONT STATE MEDICAL SOCIETY

The Ninety-Sixth Annual Meeting of the Vermont State Medical Society will be held at White River Junction, October 14th and 15th, with the followng program:

The President's Address, "Auto Intoxication," Dr. C. W. Peck

The Vice-President's Address, Subject undecided .....Dr. S. W. Hammond

"The Relation of Ophthalmology to General Medicine and General Surgery"..... Dr. J. H. Woodward, New York City

"Prostatic Obstruction, Indications for Operations, with Description of a Method of Operating".....Dr. Parker Syms, New York City

"Some Recent Advances in Our Knowledge of the Blood"....Dr. R. C. Cabot, Boston, Mass.

"Measles".....Dr. P. L. Dorey

"Intestinal Obstruction, with Report of Cases" Dr. A. Davidson

"Inflammation".....Dr. J. P. Gifford

"Some Observations on Laboratory Diagnosis" Dr. E. A. Colton

"Hydrophobia and the Pasteur Method of Immunization".....Dr. W. H. Lane

"Paranoia".....Dr. W. L. Wasson

"Veneral Diseases".....Dr. W. W. Townsend

The Local Committee of Arrangements are Drs. M. P. Stanley, G. N. Cobb and T. F. Gartland.

Dr. F. S. Hutchinson of Enosburgh Falls is Anniversary Chairman.

The headquarters of the Society will be at the Junction House.

The White River Tavern at Hartford is only about a mile from White River Junction and carriages run to and from trains.

Those who wish to room at private houses should write Dr. M. P. Stanley at White River River Juncton.

DR. McCORMACK'S LECTURES.

Dr. J. N. McCormack, as Chairman of the Organization Committee of the American Medical Association is touring the country lecturing before popular audiences on pure food, pure drugs, better sanitary and hygienic conditions, better Medical Colleges and better doctors. He will be in Vermont the week beginning Sept. 27th.

The Secretary of the State Medical Society has arranged the following itinerary: Sept 27th, Rutland; Sept. 28th, Burlington; Sept. 29th, St. Albans; Sept. 30th, Montpelier; Oct. 1st, St. Johnsbury; Oct. 2nd, Brattleboro.

Dr. McCormack has the reputation of being the most interesting speaker in the Medical Profession in the United States. His address is not in any sense a dry, scientific, technical lecture, but is on the contrary a plain, easily understood talk on matters of interest to every man and woman in the country.

The Lancet relates that a patient with a malignant growth of the larynx consulted a specialist, who recommended removal of the organ. The patient feared the operation would be dangerous, but the surgeon assured him he was bound to recover. "The mortality is nineteen out of twenty, and I've had nineteen deaths already."

In operating for intestinal obstruction in the colon the first thought should be to save the life of the patient. This can often best be done by making an artificial anus. Too many patients are sacrificed to the surgeon's zeal to do a complete and mechanically perfect operation.—*American Journal of Surgery.*

If the functional capacity of one kidney be sufficient to support life, the other may be removed regardless of its disease and should be executed in reno-ureteral tuberculosis.—*Bryon Robinson.*

Marathon races.—A new fad in athletics, the so-called Marathon races, has developed into a craze, going over the entire country. It found a place on many a fourth of July program this year. There can be no difference of opinion among physicians on the harm which is likely to result from such physical over-exertion as these prolonged footraces demand. If only trained athletes would take part in them then there would be small danger of serious damage. But only too often do we see on our streets immature boys, poorly developed young men and older ones, whose circulatory organs must already have lost their earlier elasticity, racing along, straining every muscle and puffing like steam engines. It is not a laughing matter. The people have conceived the foolish notion that such a feat will help to harden youth or restore former vigor. The physician knows better. He foresees the likely consequence—dilatation of the heart. He should raise a voice of warning and acquaint parents, teachers, Y. M. C. A. managers with the danger. It cannot be very long, before we hear of bad results, even fatalities, unless a stop is put to the nonsense.—*Wisconsin Med. Journal.*

Ringworm of the Scalp.—Paint with a solution of 2 grains of mercuric chloride in 1 oz. of tincture of iodine once a day. After ringworm has disappeared apply plain petroleum or zinc oxide ointment or boric acid ointment (5 per cent) until the redness produced by the iodine is gone.—*Critic and Guide.*

Spirit of Camphor has recently been recommended by Witlauer as the very best remedy for dandruff and falling hair. It is sprayed on the scalp by an atomizer. We have found the combination of: Resorcin, 1 dram; chloral, 1 dram; bay rum 6 ozs., so effective that we seldom have occasion to try other formulas.—*Critic and Guide.*

Yellow salve soon turns brown on exposure of light, if made with lard as a base. Cold cream or lanolin makes a good base. It should be kept in a porcelain jar with a screw top.—*Exchange.*

The Cancer Scourge.—To many small-pox is the great scourge to be dreaded, yet it is a comparatively infrequent disease as compared with pneumonia and consumption. But in the opinion of Dr. Foote of the New York skin and cancer hospital, cancer is the greatest physical scourge there is. After the age of 35 one man out of 17 and one woman out of nine die of it. During the same period more women in the United States die of it than die of consumption.

According to Dr. McGlynn of Philadelphia, "If the disease had been exterminated in this country in 1906 a saving of life equal to 373,574 years or a total saving of more than $224,000,000 in earning capacity would be the result."

But it is by no means an American disease. The mortality from it throughout the world is appalling. In England one man out of every 11 and one woman out of eight, over 35 years old, are its victims.

Nor is it an exclusive disease of the socially unfortunate, the poor or the plain people. Says Dr. Foote, "The most enlightened, the most intelligent, and the most prosperous people are the most likely to be found with the cancer growth."

The doctor's reason for making an unavoidably alarming statement on this subject is his desire to impress upon the American people the terrible danger from cancer in its early stages and the possibility of removing it and saving life thereby. "There is not a cancer in the world," he says, "except the internal ones which could not have been cured in an instant if they only had been attended to in time," and adds that "Whenever a person has a cut or sore that does not heal within the proper time he should immediately consult a physician."

Boy: "Come quick! There's a man been fighting my father mor'n half hour."

Policeman: "Why didn't you tell me before?"

Boy: "Cause father was getting the best of it till a few minutes ago!"

A Kentucky girl whose father was an undertaker was sent to a fashionable New York boarding school for a finishing term. One day one of the girls asked her what business her father was in, and, fearing she would lose caste if she told the truth, she carelessly answered, "Oh, my father's a southern planter."—*Exchange.*

Dr. Livien discusses the identification of the spirochæta pallida and the detection of specific antibodies in the serum of people infected with syphilis. No serum therapeutic treatment had been found effective. Mercury and iodides remain the chief remedies. He states that mercury is best administered by injection or inunction, and that atoxyl, given in efficient doses, has proved experimentally to produce similar results, but is dangerous to the optic nerve. The diagnosis should be certain before treatment is started. Spirochæta should be found, or time given for the serum-test, or the appearance of the roseola. In most of the cases where inunctions and injections are employed local treatment is unnecessary. Mercurial plaster should be used to cover chancres on the lips or face. Nosophen is a good dusting-powder, and orthoform may be used in painful cases. Malignant forms of the disease responded best to injections of calomel. When inunctions are used baths of soap and sulphur may be usefully added. The iodides are most useful in the tertiary lesions, but act well in vegetating secondary patches in the nose or throat. Iodism may be removed by daily administration of 15 grains of sulphanilic acid in 7 ounces of water. In sensitive cases iodipin is a useful substitute.—*British Medical Journal.*

In severe falls or blows or fracture of the pelvis, catheterize the patient as soon after the injury as possible in order to discover a possible rupture of the bladder.—*Exchange.*

Bismuth Poisoning.—(*Monthly Cyclopedia and Medical Bulletin.*) The following symptoms are produced by bismuth: Blackish discoloration of the mucous membranes of the digestive tract, inflammation of the tissues in the mouth, with swelling, excoriation or croupous changes, salivation and loosening of the teeth, nausea, pains along the œsophagus, dysphagia, vomiting, distention of the abdomen, diarrhœa, diminution of the quantity of urine, albuminuria, cylindruria, desquamative nephritis and parenchymatous degeneration of the kidney, disturbances of the pulse, singyltus, coldness of the body, dyspnœa, cyanosis, collapse, headache, fever and delirium. The writer suggests magnetic iron oxide as a substitute for X-ray absorption. Lewin (*Münchener medizinische Wochenschrift,* March 30, 1909.)

Save the Babies.—A campaign in the interest of babies' rights to health and to all that promotes health in the way of favorable environment, and of favorable physical, mental and moral inheritances has been inaugurated by the American academy of medicine. As an initial step in the movement, a conference is to be held in New Haven next November, at which leading physicians, sociologists and educators from all parts of the country will join forces in a study of the problem. The general subject of the conference will be "the prevention of infant mortality" and the four aspects under which it will be considered are the medical, philanthropic, institutional and educational.

That thousands upon thousands of children fail to get the chance, every year, just to keep on living, is proved by a glance at the figures in the government census reports. In the registration cities the deaths under two years of age constitute nearly one-fourth of the total mortality of all ages. Stronger evidence could not be required of the need for the intelligent cooperation of physicians and laymen.

The campaign inaugurated by the American academy of medicine should command the sympathetic interest and loyal support of every man and woman who loves a baby.

Saving Lives of Babies.—Nathan Straus has reached the close of sixteen years' work in saving the lives of babies in New York City by his dispensing of pasteurized milk. He has seventeen depots where milk is sold at 5 cents a quart, less than cost. He has distributed 4,167,675 quarts, in nursing bottles, as against 3,031,810 the preceding year and 1,411,017 glasses, as compared with 1,230,130 in the summer of 1907, besides 23,908 bottles of barley water. Thus nearly 2,500 infants have been fed daily on milk

without disease germs, and 16,500 glasses of milk have been served daily in the parks and on recreation piers, chiefly to children. This work of Mr. Straus is regarded as an important item in the prevention of tuberculosis and of other diseases.

New York's Water Supply.—The Catskill Mountain water system for New York, now under way, ranks as the greatest municipal water-supply enterprise ever undertaken, and as an engineering plan is probably second only to the Panama canal. An account of "The World's Greatest Aqueduct" has been written for the September Century by Alfred Douglas Flinn, engineer, headquarters department of the board of water supply of the City of New York. He shows how, ranking with the inter-oceanic canal at Suez and Panama, the Assuan irrigation works in Egypt, and the projects which are converting America's arid wastes into fruitful fields, the Catskill aqueduct, with its tributary reservoir, probably surpasses any one of them in the variety of problems to be solved. Rome's longest aqueduct was fifty-seven miles in length; the Catskill aqueduct will be ninety-two miles long. The Croton supply can safely furnish about 336,000,000 gallons daily. Five hundred million gallons daily is promised from the Catskill source, at an initial cost of $162,000,000.

Warning To Blondes.—A startling note of warning to blue-eyed light complexioned New Yorkers is uttered by Dr. Charles E. Woodruff, surgeon and major in the U. S. army, who has just completed a private tour of the prisons and asylums of the city and state.

The jails and institutions, he says are full of blondes, who unable to stand the struggle for existence in a climate to which they are unfitted, have fallen into poverty, disease and crime.

What is true of New York, he says, is true of the country as a whole. The great trouble is the sunshine. There is too much of it in America for the blonde, says Dr. Woodruff. It breaks down their nervous systems.

Of 90 paupers in Boston institutions, Dr. Woodruff says he found the same general trend in a city markedly more blond than in New York.

The thirst for alcohol, Dr. Woodruff says, is merely the expression of a nervous weakness acquired under America's sunny skies, and resulting from excessive stimulation of light as one of a thousand causes.

Maj. Louis L. Seaman, fresh from a season of travel in British East Africa, brings back some interesting details of the ravages wrought by the sleeping sickness. Investigations into the source of the pestilence, conducted by French and German scientists, have brought out the fact that it is transmitted mainly by the tsetse fly, the fly remaining inoculated for 50 days, during which period a cycle of infection is established. Thus, the hope of extinguishing the disease by the isolation of sufferers is ended. Segregation is no preventive. The horrors of the disease are accentuated by the long period of incubation. There is no cure and no good palliative. Of 500,000 persons attacked up to the present, Maj. Seaman states, not one has recovered. In the face of this fearful visitation of Providence, science stands powerless.

As to the possibilities of the transmission of the malady among human beings, information is lacking. Certain it is, however, that cases have occurred at points remote from the habitat of the tsetse fly. Some have come to light in Paris, the victims, however, being in every instance, persons who had been sojourning in East Africa. The proportion of danger outside the zone to which the plague is indigenous is probably no greater than is the proportion of danger from yellow fever outside the yellow fever belt. Nevertheless, a measure of danger exists and it indicates the need of persistent research, with a view to ascertaining with exactitude the origin of the disease and the means of resisting it.

Small clinging pieces of adenoid tissue which have not been removed by the curette will very likely set up an inflammatory reaction on the posterior pharyngeal wall which is more distressing than the adenoids themselves.—*American Journal of Surgery.*

The addition of a little oil of citrodella to an ichthyol ointment robs it of its disagreeable odor. —*Exchange.*

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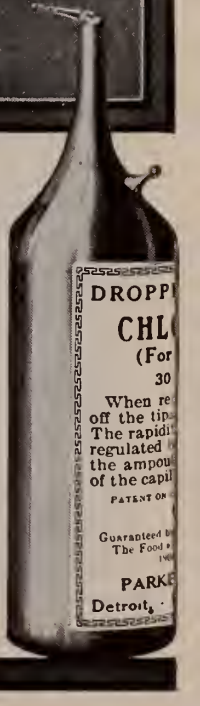
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THERAPUETIC NOTES.

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Much interest is being manifested in the chloroform dropper-ampoule marketed by Parke, Davis & Co., and which, in the opinion of a good many physicians and surgeons, is the most convenient and practical chloroform package that has ever been introduced to the profession. The new device is at once a hermetically sealed container and a perfect dropping-bottle that can be carried about in the emergency bag at all times in readiness for immediate use. It supplies in portable form enough of the anesthetic for one service—about thirty grammes. The desirability of such an individual package and its superiority over the ordinary amber, cork-stoppered bottle heretofore supplied is appreciated when one remembers that chloroform in broken packages rapidly deteriorates under the influence of air and light and becomes contaminated with chlorine decomposition products.

The dropper-ampoule is, furthermore, a very economical package, as loss by evaporation, spilling of contents, and deterioration are practically eliminated. The chloroform may be dropped directly upon the mask with ease and accuracy. The anesthetist has perfect control of the outflow and is enabled to regulate at his discretion the intervals between drops.

Physicians desiring further information relative to the dropper-ampoule are advised to write to Parke, Davis & Co., for their illustrated circular descriptive of the new package, addressing them either at their main laboratories, Detroit, Mich., or any of their branches.

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I have used Abbott's Saline Laxative and believe it to be superior to any laxative I have ever tried. The more I use it the better I like it. My patients say it is splendid, claiming that it does not gripe and does its work without any annoyance or bad feeling.

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Samples of Abbott's Salines with complete literature may be obtained free on application to The Abbott Alkaloidal Company, Chicago, Ill.

SANITARIUMS AND REAL ESTATE.—Contrary to the general supposition, sanitariums do not cause real estate in their vicinity to depreciate. On the contrary, if certain statistics are trustworthy, sanitariums cause real estate values to rise.

The National Association for the Study and Prevention of Tuberculosis has had inquiries made on this subject in 22 states. A summary of the reports submitted shows that more than 67 per cent of the sanitariums have exerted a favorable influence on adjacent property, and in almost as many cases their influence in raising assessable valuations has been direct and measurable. Only in three districts was it reported that residents had been repelled.

Land at Aiken, S. C., has quadrupled in value since the sanitarium was built there. In Hebron, Me., the advance has been 20 per cent. Like reports were received from Lucerne, Penn.; Liberty and Saranac Lake, N. Y.; Pittsford, Vt.; Mt. Vernon, Mo.; and Silver City, New Mexico.

It is also said that the effect of sanitariums on values are no less favorable in big cities such as New York, Boston, Philadelphia, St. Louis, Brooklyn and Pittsburg.

The association further says that one need have no fear of infection from carefully guarded and well-instructed patients at these health resorts.

Despite these reassuring facts and figures, there will yet remain some prejudice against sanitariums even where there is no fear of infection. Humanity instinctively draws race, class and other foolish lines. But to draw the line against an invalid seems the harshest sort of discrimination.

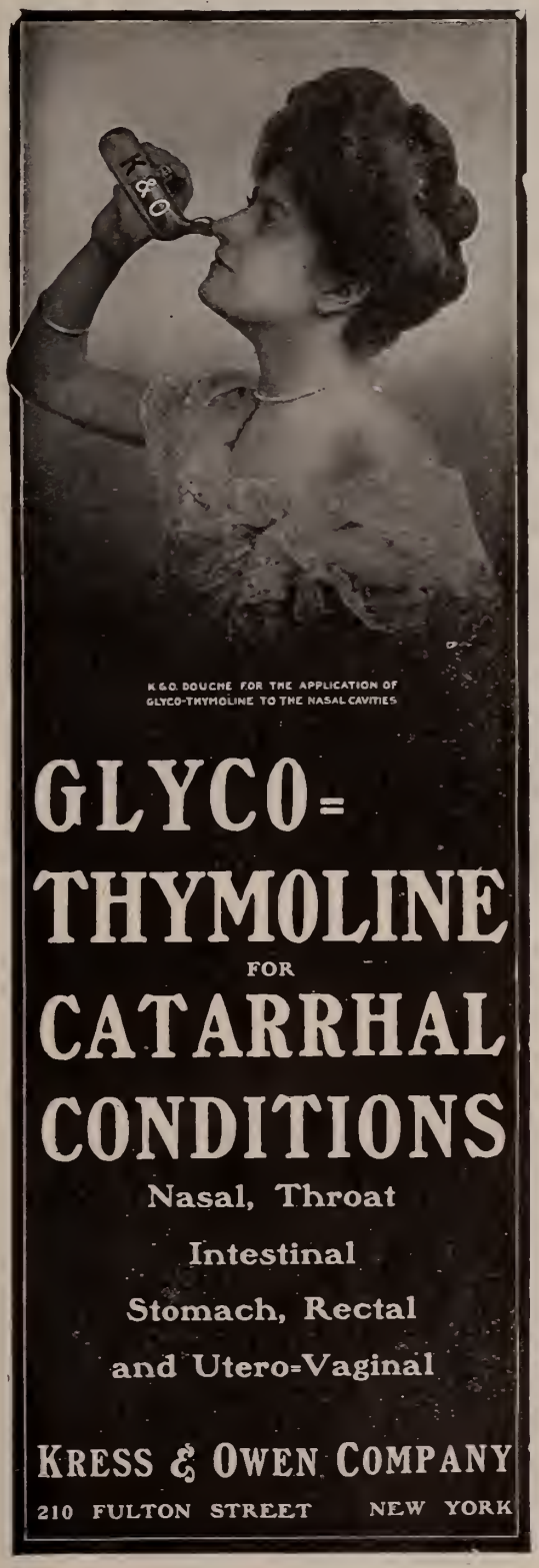
Dr. Sampel Dixon, State health commissioner of Pennsylvania, says a big factor in the development of tuberculosis among our people is the weakening of our children's general physical condition by driving them to over study. He says: "I every day see children who will never live to grow up, and who are being sacrificed to the vanity of their parents, because their children having active brains stand high in their classes; and their fathers, or more often, perhaps, their mothers, are flattered by finding that their own children are outstripping those of their neighbors in their studies. The fact is that we Americans have been too much in the habit of regarding our children as solid lumps of intellect, and have forgotten their nature is a two-fold one, that they have bodies as well as minds and that if we would have them grow up to a perfect manhood and womanhood we must educate their dual nature."

An Indianapolis real estate agency received a note from a dissatisfied tenant the other day. "I want them stares fixed," he wrote. "My wife is lible to fall on them stares and brake her dam nek. And wen the men is hear, they otter fix the bat-tup. We mite want to use it agen pretty sune."

Renal Calculi.—Zuckerkandl can distinguish in a radiograph between encapsulated and free calculi, the latter being found in the ureter. Free calculi in the kidney develop in the same manner as in the bladder. If the stones are in a cavity, this points to the presence of abscess and hydronephrosis. All calculi should give shadows in the radiograph; and no good explanation has been given why they are occasionally absent. In the removal of calculi Zuckerkandl now prefers pyelotomy to nephrotomy as being much less dangerous. This procedure, however, is not suitable for the removal of renal gravel; he splits open the renal pelvis at the ureteral point or origin; and through this opening palpates the renal obstructures. A drain is inserted, which is removed after a fortnight; of seventeen cases operated on in this way there was but one fistula formation.—*Medical Times.*

School Inspection in Germany.—During 1907-08, 39,666 pupils in the Berlin public schools (about 17.5 per cent.) were under medical supervision; 6,054 received supervision because of insufficient vitality, 7,334 on account of diseases of the eye, 3,453 on account of affections of the ear, 2,801 on account of curvature of the spine, 2,990 on account of diseases of the nose and throat, 2,775 on account of diseases of the heart, 2,062 on account of hernia, 1,818 on account of scrofula, 1,740 on account of tuberculosis of the lungs, 1,658 for nervous diseases, 1,450 on account of disorders of speech, 1,221 for rickets, 746 for imperfect mental development, 391 for epilepsy, 691 for diseases of the skin, 841 for diseases of the lungs, 381 for tuberculosis of the bones, 411 for lack of education, 177 for diseases of the kidneys and 797 for other diseases.—*Notes and Queries.*

In a patient giving a history of limping on exertion, with pain and cramp in the leg muscles, it is important to bear in mind the possibility of his suffering from intermittent claudication. The absence of pulsation in the posterior tibial and dorsalis pedis arteries and the subsidence of the symptoms during rest are strongly confirmatory in the diagnosis.—*International Journal of Surgery.*



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A dispensary was opened a few months ago by Dr. Lester H. Beals, a missionary of the American Board in Wai, a city about a hundred miles south of Bombay. Without any advertising 90 patients came the first day, and since then the daily attendance often exceeds 200. A considerable number need operations, especially for removal of cataracts, and more careful and prolonged treatment than is possible at a dispensary. Dr. Beals writes: "The medical destitution far exceeds anything that I supposed this part of India could furnish."

The administration of potassium iodide after operating for anal fistula in syphilitic and even in tuberculous subjects will be often found of benefit to stimulate healing.—*International Journal of Surgery.*

Asepsis in Obstetrics.—Krönig (*Münch und Woch.*, Nov. 24, 1908) rightly objects to complicated aseptic technique and to the present "era of rubber," the introduction of rubber gloves has not led to any diminution in mortality or morbidity in normal labors. [In point of fact, the vaginal mucous membrane and secretions have quite unusual bactericidal properties.] Much disinfection of the hands and of the woman is lengthy and unnecessarily annoying to the patient. There should if possible be no disinfection whatever of the external or internal genitals; the labor should be so conducted that the doctor need likewise disinfect his hands but little, all stress should be laid upon the local and general predispositions to infection, and to obviate these as far as possible. Krönig believes the principle of freedom from germs to be an impossible and an incorrect one. The effective disinfection of the vulva is impossible unless all the pubic hair be shaved; this should, however, be done in case of any operative procedures, when effective disinfection can be attained during anesthesia. To escape the dangers of internal examination Krönig would palpate per rectum; he finds the results here to compare favorably with any other method. Only among primiparae does he protect the perineum by the use of rubber gloves. He does not disinfect after labor. The puerpura is allowed to leave the bed after the first day (!) if possible, this procedure diminishing the local predisposition to uterine infection.

Boric Acid Poultice.—The following is recommended by *The Hospital* as useful in acute and sub-acute skin affections to cleanse and soothe prior to the application of ointment, etc. Mix a tablespoonful of cold water starch and a teaspoonful of boric acid with a little water. Add the mixture to a pint of boiling water and stir the whole mixture till a uniform mass is formed. When cold spread the jelly thickly on cotton and cover it with a piece of muslin and apply. It is a good plan to put on the poultice at bedtime and to remove it in the morning.—*Therapeutic Record.*

Gastric lavage is the best post-operative antiemetic.—*Ohio State Medical.*

The presence of diabetes should not deter the surgeon from giving a patient with that malady the benefit of relief from a surgical disease.—*American Journal of Surgery.*

Fish Poisoning.—A young bacteriologist presents in the last number of the *Deutsche medizinische Wochenschrift* an interesting contribution to the question of the origin of fish poisoning, new cases of which will surely be brought to notice with the beginning of hot weather. He has shown the presence of paratyphus bacilli in the ice in which sea-fish were packed for transportation and is of the opinion that the fish may become infected by these bacteria from the ice. He concludes that the usual packing of sea-fish in ice does not prevent the occurrence of fish poisoning and urges that the method of preserving fish be improved. Only natural ice from a source free from infection should be used for packing.

In strapping the chest for a fractured rib, two points should be carefully noted: (1) The straps should pass well beyond the median line. (2) They should be applied in full expiration. One or two straps passed over the shoulder helps much to secure immobilization.—*Exhange.*

Her Idea of It.

Rural Aunt.—"And what do you work at when you are at home?"

City Nephew (on a vacation).—"Why, I attend school. I'm studying for a doctor."

Rural Aunt.—"Do tell! Ain't the doctor able to do his own studying?"

In many instances where a patient is supposed to have merely a sprain of the ankle, there is some fracture around or into the joint. Signs of fracture should be carefully sought for. Where nothing can be found around the ankle on examination and the patient still continues to complain of pain and weakness, a skiagraph may show a transverse fracture of the os calcis which is held in place by the flexor muscles.—*American Journal of Surgery.*



When paraffin is injected subcutaneously allowance should be made for increase in the size of the mass by the growth of connective tissue around it.—*American Journal of Surgery.*

It is 301 years since Calomel was first described (in 1608, by Beguin). No other chemical had so many and such fanciful synonyms. Beguin described it under the name *Draco Mitigatus* (the tamed dragon).—*Critic and Guide.*

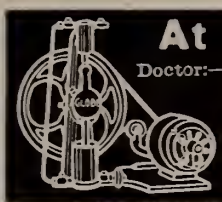
Diseased Tonsils.—E. Mayer, New York, (*Journal A. M. A.*, August 28), says that the conditions of the faucial tonsil which call for operative interference are: (1) Simple hypertrophy interfering with breathing; (2) diseased conditions of the tonsils themselves causing local or constitutional infection. He takes up these causes in order and gives an account of the results of the giving of attention to the enlarged tonsils in school children in New York City. Some of the children after operation showed an improvement of 100 per cent. over their former ability to work and in behavior, from the simple removal of hypertrophied tonsil. Within six months 76 out of 81

operated on at one time had been promoted and were doing well in the advanced grades. Passing to the second cause, he speaks first of the affections of the tonsil itself that indicate the need of extirpation and secondly the constitutional disturbances connected with its disease. The most common of all these in the first category is acute lacunar or follicular tonsilitis, of which the recurrences are sometimes so frequent as to make the children lose much time from their school work. He goes over the literature to a considerable extent of the other various non-malignant tonsillar diseases, enumerating the various forms. The second class of cases are then mentioned, and he says that the list has become a very formidable one. A careful study of the voluminous literature of the subject does not at all change his opinion, formerly expressed, as to the tonsils as the portal of infection of a large number of very serious conditions which can be averted by prompt extirpation of these organs. He concludes with the statement that it is imperative on the physician to advise thorough extirpation in all cases of unusual hypertrophy, recurrence of inflammation, or any diseased condition.

Joint Affections in Children.—Inflammations in and about the joints of children, other than tuberculosis, are discussed by L. E. La Fetra in the *Journal A. M. A.*, August 21, who reports a number of cases of arthritis due to various causes. Rheumatism itself is so rare in children under two years of age that the diagnosis should not be made until other causes are rigidly excluded. It does occur, however, and is sometimes mistaken for tuberculous disease. Cases of arthritis occur from other causes, infections by the streptococci, staphylococci, gonococci, pneumococci, the bacillus of influenza, cases due to osteomyelitis, including periostitis and epiphysitis, cases of deep cellulitis, and of perinephritic abscess, psoas abscess, and ischiorectal abscess, all of which are included in the reported cases. He concludes that arthritis and what may be called "near arthritis" are quite common in infants and young children, and that in all cases a careful history of the infant from birth should be obtained. This should include particularly any umbilical infection, early ophthalmia, vaginitis, pneumonia, typhoid, and influenza, from which the infant may have suffered. The feeding history, especially the use of sterilized carbohydrates or proprietary foods, should be looked up carefully and inspection of the gums may save an incision into the thigh. It is needless to say that the patient should be undressed entirely for inspection. Many mistakes in diagnosis may be thus avoided. Tuberculosis and rheumatism should be excluded by careful examination of the symptoms in every regard. Children over five years old are much less liable to have suppurative conditions in the joints, and, when they do occur, the cause can usually be determined. Joint disease in children over five is usually tuberculous or rheumatic. The earlier proper treatment is instituted the better. It is remarkable how well some cases do with wet dressings of aluminum acetate or of 60 per cent. alcohol, or a combination of these. If the progress is not satisfactory an early incision and drainage of the joint is advisable, and if the bone is diseased the infected focus should be scraped out. Vaccine therapy, especially with the streptococcus and staphylococcus vaccines, is often a valuable aid. Prompt attention to treatment may save the other joints and the better the chance of complete functional recovery.

Chloroform in Phthisis.—J. Walsh, Philadelphia (*Journal A. M. A.*, August 28), objects to the use of ether in tuberculous cases, especially active tuberculosis of the lungs. During the past six years he has never allowed his patients thus affected to be operated on under ether if he could possibly prevent it, and he has never seen any bad results that could possibly be attributed to chloroform in these cases. During the same period he has seen a number of patients manifesting active tuberculosis of the lungs, which activity appeared from the history, to be due either to the operation or to the ether. He reports several cases in which chloroform not only did no harm but seems rather to have a beneficial effect, and one of nitrous-oxid gas anesthesia which had a similar outcome. Two cases of damaging results from after ether anesthesia are also reported. While a mere statement of the cases makes it appear that chloroform might be even somewhat curative as asserted by Holmes and Woodcock, London, he is not ready to advocate it as such. He does however believe that in case of necessary operation with anesthesia in all cases of tuberculosis of the lungs, or where it may be suspected to exist, chloroform and not ether should be the anesthetic.

Interstitial Keratitis.—H. Gifford, Omaha, (*Journal A. M. A.*, July 3), says that the more he sees of interstitial keratitis the more convinced he is that Hutchinson is right in attributing practically all of it to inherited syphilis. He refers only to the typical form which occurs almost always between the ages of three and sixteen years, and almost never after twenty-five. The prophylaxis of the condition, therefore, resolves itself for practical purposes into the prevention of syphilis and the cure of syphilis, more particularly of the hereditary form. He does not attempt to cover the whole field, but simply lays stress on certain peculiarities of the teeth as aids to diagnosis, on the treatment of the disease when it has broken out in one eye, and on the prophylactic management of children marked with the disease but without active manifestations. He thinks it highly probable that if all children between the ages of three and sixteen showing the signs of inherited lues could receive a long continuous course of treatment, the number of cases of interstitial keratitis and of syphilitic deafness could be greatly reduced. The ordinary signs are well enough known, but he calls attention to certain pecularities of the so-called Hutchinson teeth, the bulging of the lateral lines of which he considers as the most permanent feature. As regards the milk teeth Hutchinson in his second paper made some important observations which have practically passed into oblivion. One of these refers to a condition which he illustrates in which the incisors are small and discolored while the canines are healthy looking. This is a common symptom. Other figures show another peculiarity of the milk canines on which Hutchinson lays great stress and which Gifford has seen a number of times. A central discolored blunt peg projects from and is separated by a shallow groove from a base or collar of normal looking tooth tissue. If we imagine the same sort of defect in a molar tooth we shall have a symptom on which great stress has been laid by Darier. Gifford considers such molar teeth and the peg shaped milk canine fully as characteristic as the Hutchinson incisor. Another form of syphilitic tooth on which Darier lays stress, is the tuberculated permanent canine which is also figured by Gifford. He also mentions another form



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of first permanent molar which he calls the slope molar in which the base is much wider than the crown which is probably due to the same influences of malnutrition. Formerly he placed little reliance on the use of specific remedies but of late years he has followed a more vigorous treatment and with better success. He thinks that he has the best results since adding arsenic to the treatment. Summing up he says that he thinks the following points may be made with reference to the prophylaxis of interstitial keratitis: "First, in the text-books which treat of the diagnosis of hereditary syphilis, instead of the single faulty cut of the teeth so commonly used, at least half a dozen figures should be presented to show not only the varieties of the Hutchinson tooth, but the other more important forms of syphilitic teeth mentioned in this paper. Second, all children in public institutions and in private families who show any of the well-marked signs of inherited syphilis should receive a course of anstisyphilitic treatment, even if in other respects they seem to be entirely well; the results and indications of this treatment being controlled, if possible, by the serum diagnosis test. Third, when a case of syphilis, inherited or otherwise, appears in a family, all other members of the family should be examined for signs of the disease, and if such are found, should be subjected to specific treatment. Fourth, by an extra vigorous use of specific treatment the disease may be kept out of the second eye in a larger proportion of cases than has hitherto been thought possible."

Gallstones and Heart Disease.—R. H. Babcock, Chicago, (*Journal A. M. A.*, June 12), calls attention to the gastric and digestive tract symptoms of gallstone disease and their association with cardiac derangements, which often overshadow those pointing directly to the hepatic disorder. This last was the case in 11 of the 13 cases he reports. The symptoms referable to the heart predominated, the gall-bladder becoming an object of suspicion either on account of digestive troubles or something in the history of the case. In each of the cases, however, careful palpation detected a swelling over the gall-bladder which in most cases was shown by operation to be a Riedel's lobe. He divides the cases into four groups: 1. Five cases of pronounced cardiac incompetence showing considerable dilatation with arrhythmia and feebleness of heart's action with murmurs. 2. In two cases there had been attacks of pain, of anginoid character followed by evidences of cardiac muscular inadequacy, and one case in which there was dull infracardiac pain together with irrgular pulse and a moderate degree of dyspnea on exertion, both dependent on recognizable, though not great, cardiac dilatation.

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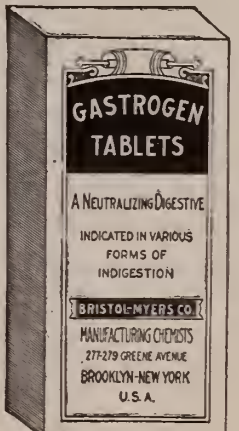
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3. In this group were three cases of intermittent pulse of long standing and very intractable, but without dyspnea or other marked subjective symptom of myocardial inadequacy. Patients in this group were greatly benefited by operation, more so than by any other line of treatment. 4. This group includes two cases of valvular disease in which cardiac competence was destroyed, either by evident attacks of hepatic colic, or by distressing symptoms attributed to the stomach, at first, but later referred to the gall bladder, because of the recognition of a Riedel's lobe. The cases are reported in detail, and the question arises how to explain the effects of gall-bladder disease on the heart and why all persons with chronic gall-bladder disease do not develop cardiac symptoms. Babcock admits his inability to answer the first of these questions, but suggests a pre-existing myocardial condition as accounting for the occurrence of the symptoms in some and not in other cases. Several theories may be advanced for the bad effects of gall-bladder disease on an already predisposed cardiac muscle; such as (1) the circulation in the blood of bacteria or their toxins; (2) the depressing influence of bile constituents on the heart muscles; (3) disturbance of the splanchnic circulation, and secondarily of the systemic circulation, of the heart; (4) reflex inhibition through the vagus. Each of these are taken up separately and their probability or possibility shown. Babcock closes with a discussion of the literature of the subject.

Responsibility of Physician in Cases which Menace Public Safety.—W. R. Dunton, Towson, Md. (*Journal A. M. A.*, June 26), takes as his text a paper by Dr. P. C. Knapp on "General Paralysis as a Menace to Public Safety" which appeared in the *Boston Medical and Surgical Journal* over a year ago. The paper discussed particularly the nervous and mental conditions in railroad men, especially engineers, and the dangers to the public through their neglect. Dunton states that after reading the paper by Knapp, and other publications on the same subject, he took the matter up with an official of one of the railroads in Maryland. This man recognized the importance of the subject and the matter was referred to the chief surgeon of the road, who, to the amazement of Dunton, gave it as his opinion that neurologic examination of engineers was unnecessary because: (1) the men would not submit to such an examination; (2) rejection of a candidate for some neurologic symptom would bring forth a protest which it would be difficult to answer satisfactorily; (3) following a candidate's rejection the union to which he belonged would make a strong protest. This last objection seemed to be the most important to all railroad surgeons. Dunton discusses the methods of examination of railroad men now in vogue and expresses himself as dissatisfied with them. He cites cases illustrating the dangers of accident due to defective eyesight of the engineer or incipient paresis. He concludes his paper as follows: "If a physician has as a patient a person unfit to hold a responsible position and a menace to public safety he should endeavor to have the patient voluntarily give up such a position, or if circumstances are such that there is no immediate danger the patient may continue in it under observation. If the last is impracticable and if the patient refuses to be guided by medical advice, some steps should be taken to have the patient removed from this position. We physicians should also endeavor to have transportation companies institute such tests as will insure against the employment of those likely to be a menace to public safety."

The American College of Mechano-Therapy.—No field has been more thoroughly worked in the realm of the new "drugless" quackery, says *The Journal A. M. A.*, August 28, than that of "manipulation." The absence of laws in many states and the inadequacy of such laws as do exist make the "treatment" of disease by mechanical means a veritable gold mine for the unscrupulous and incompetent. Attention is called to the absurdity of the proposition that "manual manipulation" can be taught by correspondence—a proposition made by a Chicago institution calling itself the "American College of Mechano-Therapy." This concern in explaining what constitutes the mechano-therapist's" armamentarium says: "His medicines . . . are not drugs but scientific combinations of food, circumstance, idea, water and motion." Further: "His instruments are not knives and saws, but his own deft hands and the vital processes of the body itself, the circulation, respiration, secretion, etc., which he manipulates as he sees fit and his judgment dictates." According to the catalogue of this "college" the following subjects are taught: Anatomy, physiology, diagnosis, hygiene, dietetics, hydrotherapy, manual manipulation, swedish movements, vibration, oscillation, mechanics (curative), suggestive therapeutics, ethics, establishment, promotion and business methods." It is possible to absorb all this knowledge and to receive the diploma —"handsomely executed on art parchment" in six months! The acquirement of the *tactus eruditus* is all-essential, "but it is no more difficult than learning to ride a bicycle." *The Journal* suggests that there may be commercial possibilities in teaching bicycle riding or even equestrianism by mail! The business side of the "course" deals with such problems as: "How to get fees at once;" "The business talk that will make the patient willing to pay the fee;" "real money talk;" "always get cash down." The tuition rates vary. Sometimes they are placed at $100 at the start, diminishing by easy stages down to $25; in other cases a $50 rate has been offered with the first letter. Regarding the legal status of this "most improved method of drugless healing," a prospective student asked if he could "practice mechanotherapy in *any* of the states." on completing the "course" and receiving the "diploma," and whether "there are any restrictions in regard to [the practice of] mechano-therapy." He was told by the dean of the "college" that "there are no laws on the statute books regarding mechano-therapy." He was also informed that in Illinois some of the "graduates" qualified under the "drugless healing act" but "others carry on their work under the advice and consent of a friendly M. D." The dean recommended "the latter method." As *The Journal* says, these statements contain food for thought for those who believe that medical practice acts are for the protection of the public.

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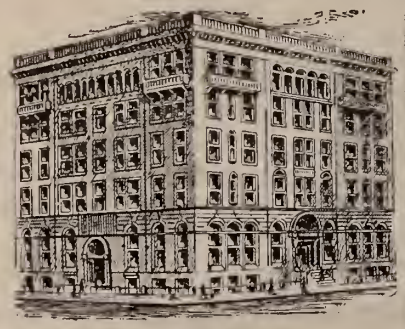
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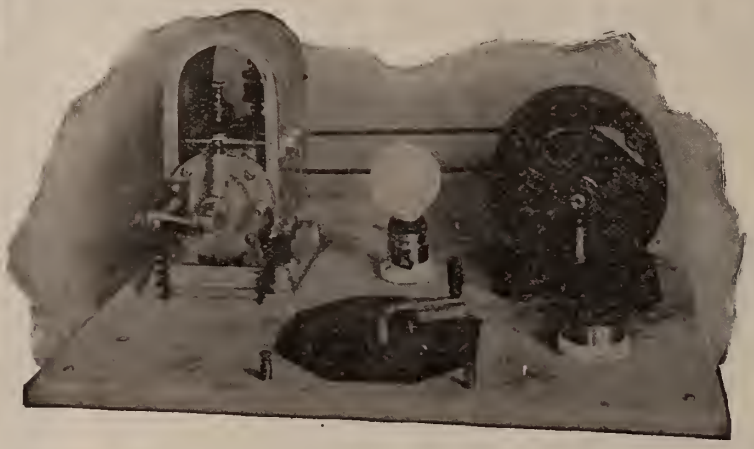
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Late Researches in Diphtheria Therapy

Investigations by Fritz Meyer (*Berliner Klinische Wochenschrift*, June 28, 1909; editorial comment, *Medical Record*, July 31, 1909) on the effect of diphtheria toxin and antitoxin upon the heart, demonstrate:

1. **"Antitoxin, if administered early in sufficient doses, absolutely prevents the fall of blood-pressure."**
2. **"If given later, but before the fall has occurred, it delays the onset; but**
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POSTMORTEM RIGHTS.—A broad and sane verdict, says the *American Medical Compend,* has been recently rendered by the court of appeals in Georgia. It had reference to the rights of the physician in charge to hold a postmortem in case of death in which he is seriously in doubt as to its cause. The court held that the plaintiff's contention that the body of his wife had been unlawfully mutilated to gratify professional curiosity was unjustified, and that, while the husband was entitled to the body, the laws of health, duly enacted in order that the living might be protected, are salutary and ought to be observed. Plaintiff's wife was taken ill and was placed by her family doctor in the free ward of a hospital where she was entrusted to the care of a hospital surgeon. In a short time she died. It was necessary to know the cause of death in order to make out a burial certificate. The hospital surgeon made a slight incision in the side of the corpse, which was sewed up and was not perceptible. Common sense suggests to a few friends of deceased patients that it was a matter of importance to them as well as to science to be sure as to exactly what killed their parent or friend. Some few are not only willing but anxious that the interests of science should be served by not only a postmortem on their friends but also themselves, when dead. The majority, however, in this land of the free, object and some dead beats will sue for imaginary infringements of their feelings. A few yield to that broader conception, the common good. Contrast the state of affairs in Austria where practically every person who dies is postmortemed, without any question of interference from the relatives. An autopsy there is taken for granted, while in this country it must often, if taken at all, be by force, strategy or persuasion. If more courts were as broadly humane as that of Georgia, pathology would grow in our country as it has in Austria. Our vital statistics would then be more complete and accurate than is at present possible. If a patient and his friends have confidence enough in a physician to employ him in a serious illness and to stick to him till the end, why should this confidence not continue when he advises an autopsy?—*The Medical Standard.*

Vermont Medical Monthly.

VOL. XV. OCTOBER 15, 1909. NUMBER 10.

ORIGINAL ARTICLES.

AUTO-INTOXICATION.

PRESIDENT'S ADDRESS.

C. W. PECK, M. D.

In casting about for a subject upon which I could write a few lines that would be interesting to this Medical Society, I have chosen as that subject "Auto-Intoxication, or Self-Poisoning"; not because I flatter myself I can do justice to this great and important medical question, but because for years I have been reading and thinking along these lines and thought possibly even a short and imperfect article on this topic might arouse interest on the part of my hearers.

For the last quarter of a century the trend of medical and surgical thought has been in the direction of the discovery and prevention of contagious diseases—this came naturally after the work of Koch and Lister which was almost indispensable to the age and generation.

Naturally, for the time being, the conditions which arise from faulty dietetics and imperfect oxidation of the food stuffs and the evils arising therefrom, were left for later consideration and more particularly for men in the medical, rather than in the surgical fields of thought, although the two are most intimately associated and practically inseparable. At the present time there is no doubt as to the various pathological germs from without with which we must contend and their potency for the destruction of human life. We are taught that certain conditions are absolutely necessary for the development of these germs as well as that certain conditions militate against their development and that these conditions are to a great extent within the control of mankind. It is one thing to be born well, but quite another to keep well. I think it very important, since we have discovered the great dangers which beset us from without, through the multitude of poisonous germs which attack us on every hand, that we should now fortify ourselves against the dangers arising from within. It is hard for me to believe a Supreme Being would make it possible for his microbes to destroy the highest order of his creation and not at the same time make it possible for man to defend himself by some natural means outside the scientific field of learning. The natural process by which mankind is developed and maintained, the processes of digestion, assimilation and elimination, the chemical action which takes place in the system during the process of digestion and assimilation, the separating the eliminating of waste from the system during this process, the building up and maintaining of the vital forces so as to keep the individual in a normal condition are some of the factors which enter into this great question. But it is more to our purpose at present to discuss the abuse of these natural processes, the results of unoxidized substances in the blood which hinder and derange the organs of elimination. We do know that the body must receive its normal amount of nutrition and rest in order to maintain its normal standard of health, that slight deviations from this standard are tolerated by the system, but that a continuous and abnormal abuse of these laws is sure to produce within the system certain changes which we call auto-intoxication, or self-poisoning. Now it is the relation which these processes sustain to the contracting, developing and continuing of the various conditions we call disease with which we have to deal. Combe defines auto-intoxication as a toxemia caused by substances which are formed in or through the influence of the vital processes of the organisms in distinction to those introduced from without. This definition although undoubtedly correct, in point of fact, is not to be clinically differentiated for there are many cases in which poisons are introduced from without which receive a great impetus from the poisons within, due to true auto-intoxication. And here let me answer the question, "What is disease?" and you will note the similarity in terms to that of auto-intoxication. Gould defines disease as a condition of the body marked by inharmonious action of one or more of the various organs owing to an abnormal condition or structural change, or in other words, a pathological condition. I assume all diseases are accidental and not physiological, and if not physiological, then they must be pathological. There is another factor entering into the cause of disease to which I wish to

call your attention before proceeding to the more practical discussion of the subject and that is the relations which exist between the peripheral nerves of sensation and the condition of the internal organs. This relation plays a very important part in many of the diseases with which we have to contend; it is a most important factor in the so-called "Diathesis" mentioned by the older writers or auto-intoxication of today. For example, the application of cold externally may be instrumental in producing a coryza, a neuralgia, gout, rheumatism, bronchitis and many other diseases, from the fact that the system is in that particular toxic condition which leads directly to the disease. It is the importance of this condition both in medicine and surgery which I wish to emphasize here. Just how this mysterious nervous work is done, whether by a disturbance in nutrition, a disturbance in elimination or both I am not prepared to say. The fact remains that a cold current of air blowing upon a person's neck or ankles can, and many times does produce pneumonia, simply because of the toxemic condition of the individual at that particular time. It would seem as if, under certain conditions caused by nervous impressions, the blood was loaded and, undoubtedly it is at times, with just that quantity and quality of toxic material which is necessary to set up a congestion of the lung with all its attending symptoms. This soon leads to pneumonia without the introduction of a single germ, for nerve reactions cannot convey germ infection.

Now what is true of pneumonia is also true of tonsillitis, pleurisy, rheumatism, neuralgia, and many other diseases which depend upon a certain diathesis or condition caused by certain poisons contained in the system which we call auto-intoxication. Let us admit that each contagious disease is caused by a microbe, we must admit also that there is something more than the meeting of microbe and man to produce a contagious disease, otherwise the meeting of man and germ would produce the disease universally, but such is not the case. On the contrary, infection is the exception and not the rule. The two may meet but the power of resistance in man when in health or in a physiological condition is such that the germ, failing to find the necessary pathological condition for its attachment and reproduction, fails to make good its contact and comes to naught. At other times the system being loaded with just that media which makes for a diseased process, the work is easy and the disease is established. If this condition is true of nervous impressions without the exposure to germs, how much more should it be true of individuals in an auto-intoxicated condition when exposed to the germs of a contagious disease! Would it be too much for me to say that without auto-intoxication there would be almost no such thing as coryza, bronchitis, gout, rheumatism or neuralgia unless traumatic? Would it be too broad a statement for me to say that mankind in absolutely perfect health would be impregnable against nearly all contagious germs except those of genito-urinary diseases which are classed as infectious? Would not the natural powers of resistance implanted within us be equal to the powers of external germ infection? Whether this theory is strictly true or not, it is near enough to make that condition called auto-intoxication of the utmost importance and should be taken into consideration in the diagnosis and treatment of every medical and surgical case that comes under our observation. That old saying of the famous English physician is strictly true that neuralgia is a cry for better blood, and I know of no other reasonable and successful way of treating this disease than by removing the unoxidized and pathological substances from the system and thus allaying the nervous irritation. Pregnancy is not a disease, yet it is many times a most striking example of the dangers of retained waste in the system and very like a disease, and I doubt if there ever was a case of pregnancy, particularly in these latter days, without some functional derangement of the internal organs amounting in some modified form to an auto-intoxication. I have thought for years that the best time to treat puerperal eclampsia was before it began and our success in managing this class of cases depends almost exclusively upon the condition of the patients before confinement, which means that they be removed as far as possible from an auto-intoxicated condition.

Puerperal eclampsia is the manifestation of a toxemia caused by retained poisons in the system acting upon the nervous centers. The elimination of these poisons prevents the convulsions. How much easier to avoid this dreadful condition by proper dieting in advance! When we consider the cause of this most dreaded disease associated with the pregnant state how easily

and naturally the treatment suggests itself—no matter what remedies you choose, the object to be gained is the same—remove the poison from the system and allay the nervous irritation. It would be better not to allow it to occur. Can any one doubt for a moment that this condition is due to auto-intoxication or that it can almost always be avoided by a proper course of dieting and treatment? Strange as it may seem to some of my hearers I have no hesitation in saying that the medical man who fails to study the philosophy and significance of elimination of waste from the system both in health and disease is poorly equipped to do his great professional work for suffering humanity and knows but half his lesson.

One of the greatest dangers confronting the human family today outside of contagious and infectious diseases is auto-intoxication. In fact I do not know of any disease which is not more or less affected by this almost universal condition . Take for example that great class of diseases arising from gastrointestinal irritation so common among young children caused by over and imprudent feeding, resulting in a putrefaction of the contents of the alimentary canal, which generates some of the worst known poisons which act upon the peripheral nerves of the intestinal tract and are also absorbed into the blood. Could anything be more toxic—and this process continuing day after day by the ill advised mother until convulsions and death close the scene. This is no imaginary picture, but an every day occurrence. To auto-intoxication we can ascribe very largely the great mortality among children, all of which could be very largely modified by a proper course of dietetics and care as to the elimination of waste from the system. And what is true of children is also true of adults only on a larger scale. The elimination of waste in all cases of inflammation is indispensable to a prompt recovery of the patient. This condition of the emunctories is many times of more importance than the inflammation itself. Who would think of treating a pneumonia by giving all attention to the lung and leaving the liver torpid and the kidneys with a scanty and abnormal secretion of urine? It would be simply a case of waiting for nature to do her own work unaided, when you have the power by the use of the proper remedies to assist nature very greatly and save your patient days of suffering. It is through the emunctories we can best correct this auto-intoxicated condition. In a severe conjunctivitis you apply leeches to the temple and give a laxative. What do you do? Aid the emunctories to assist nature to eliminate from the system what may have been stored for weeks in the blood and internal organs. Can any man who has had the experience doubt the efficacy of a liberal dose of calomel under such circumstances? Why? Because this remedy acting on the liver has more power to remove waste from the system than any other laxative and what is true of conjunctivitis on general principles is true of all other similar conditions. In pleuro-pneumonia where there is great pain and shortness of breath you would take blood from the arm by venesection. What does this do? It aids the emunctories by removing waste directly from the circulation, for we have learned that this disease is caused very largely by an accumulation of waste in the blood precipitated possibly by exposure to cold but being more the result of the auto-intoxicated condition. At the same time you would give a cholagogue combined with a diuretic to stimulate the liver and kidneys, two powerful organs of excretion. You would also by the application of external heat such as bottles of hot water, hot free stones or bricks, stimulate the skin to free diaphoresis and thus add another great power to eliminate waste from the system. In this way you will equalize the circulation, eliminate poison and change the character of the case in a single night from one with a serious outlook to one of convalescence, all from the fact that you have relieved the over loaded poisoned system. It is simply a question of using the organs which nature has given us, like the liver, skin and kidneys to remove from the system unoxidized substances so that nature may repair her injured and poisoned body. I cannot speak too forcibly of the necessity of maintaining a uniform circulation and normal functional action through all the internal organs of elimination, particularly the liver and kidneys, in case any organ of the body becomes congested or inflamed.

It is not in inflammations alone that we see this great demonstration of self-generated toxemia. It is seen in reflex nervous irritations such as are observed with nervous dyspepsia and irregular action of the heart. Many a poor unfortunate victim of heart palpitation has labored under this dreadful poison with a delusion that

death was near at hand, when a dose of calmel, rest, and a well regulated diet would have dissipated the delusion and carried sunshine into the chamber of fear and anxiety. The capacity of the system to oxidize the food stuffs is limited and an over generous diet is liable at any time to produce a train of symptoms which unless carefully studied might lead to an unfavorable prognosis and great anxiety.

Experiments upon the lower order of animals have demonstrated beyond a doubt the importance of the bile in the alimentary canal as an aid to nutrition, but its complete function in this particular direction is not perfectly known today. Much less do we know of the dangers of the changed conditions of the secretions upon the system when it fails to eliminate its normal amount of waste. Post-mortems may reveal results but not necessarily primary causes. Years ago two great men engaged in a medical controversy. I read that discussion in the early days of my practice with much interest and it made a strong impression upon my mind. The parties were Drs. Gaylord Thomas and Fordyce Barker, both eminent medical authorities. The question was on the contagion of child-bed fever, one contending that the danger from contagion was from without the system, the other contending that the danger was from the auto-intoxicated condition of the individual. Both were right, but Thomas was the more successful because the profession soon embraced the theory of germ disease, and the significance of the condition of a pregnant woman has not even to this day been fully appreciated. Toxemia in its many forms in both mild and severe cases is becoming more and more apparent every day. The profession is very slow to believe that a perfectly well man cannot take cold, and have neuralgia or gout, that there is a condition as well as an individual and a microbe entering into all contagious diseases, and that these conditions are amenable to treatment, and consequently it is within our power to modify as well as abort many cases which now go on to an unfortunate termination. In conclusion, I would be understood as saying that many germ diseases although contagious are only so in so far as the contracting parties are out of condition and susceptible to said germs in consequence of their lowered powers of resistance, due to an auto-intoxicated condition. The auto-intoxication is a toxemia which is the result of imperfect oxidation of the food stuffs forming one of the three conditions necessary in the contracting of contagious diseases, namely the germ, the individual and the condition and without these contagious diseases do not maintain.

I do not call to mind a case of rheumatism, gout, pneumonia, neuralgia, (barring traumatic neuralgia,) which does not depend upon auto-intoxication for its origin and continuance. I believe the power of resistance to germ diseases is in proportion to the auto-intoxicated condition of the individual and that this power is equal to the contagion providing the individual is in a normal condition; that the types of disease are governed by the amount of unoxidized substances in the system of the individual contracting such disease. Therefore, I would urge upon the profession the necessity of a more careful observation of the poisonous products which are generated in the human system as a result of imprudent eating, which clogs the system with unnatural and poisonous waste in the blood. Overworking impairs the vital forces and prevents the prompt absorption and elimination of waste which is a large factor in the production of disease as well as a hindrance to recuperation in case of disease.

TUBERCULAR HIP DISEASE.

BY

N. W. McMURPHY.

Hip joint disease has been defined as a chronic lesion of the coxofemoral articulation, beginning usually as an osteitis or synovitis, and terminating in recovery, ankylosis, or complete destruction of the joint.

The causes of hip disease are both predisposing and exciting. Among the most prominent of the predisposing causes are: age, hygienic surrounding and a strumous diathesis:—while the most frequent exciting causes are: the exanthemata of childhood, traumatism and diseases of the neighboring organs.

Though it may occur late in life, hip disease is essentially a disease of childhood and age is classed as one of the most important of the predisposing causes. It usually attacks children between the ages of two and fourteen. The

generally accepted reasons for the relative frequency of hip disease at this early period being "the frequency of tuberculosis in childhood; the active growth and immature nature of the joint constituents; the greater liability of children to fall; and the greater activity of youth, which favors the development of disease from slight injury."

The pathological lesion in advanced stages is destructive osteitis resulting in absorption or caries of a portion of the entire joint, and as a tubercular lesion does not differ from tubercular osteitis of other parts of the body, its extent and destructiveness depend in a large measure upon the initial lesion and the virulence of the disease. In the head and neck of the femur the lesion may be limited to a circumscribed area, the epiphysis completely destroyed or separated and the sequestra cut off by granulation, but in the severer forms the whole structure of the joint is destroyed and the acetabulum perforated by the ulcerating process. In a large proportion of cases, where the course of the disease is not checked by treatment, suppuration occurs, the abscess finding exit in the direction of least resistance.

Tubercular hip disease is seldom associated with pulmonary tuberculosis, though tubercular osteitis in other parts of the body, especially in the vertebrae is quite common. It has been claimed by many authors that there is a direct antagonism between external and internal tuberculosis, and that this is the reason why patients suffering from hip disease, external cervical gland disease or angular curvature of the spine so seldom have pulmonary tuberculosis, but that when the tubercular process in hip disease infects the general system miliary tuberculosis, or tubercular meningitis usually results.

SYMPTOMS.

While the symptoms of tubercular hip disease in an advanced stage are generally well defined, yet in the early stages they are even more or less obscure and a differential diagnosis difficult or even in many cases impossible without the tuberculin test, as clinical signs alone are often deceptive and unreliable.

Hip disease is divided by most authors into three stages. In the first stage usually the first thing to attract attention of the parents is a slight limp, noticed in the morning but usually passing away in a few hours. This limp is due chiefly to a stiffness about the joint and to pain, which is present to a greater or less degree at this time, and which is aggravated by motion and is usually referred to the knee, by reason of the distribution of the obturator nerve. The pain is periodical, often seizing a child suddenly while at play, more troublesome during the latter part of the day and usually disappears during the night.

Another early symptom, and one which is always present, is muscular rigidity caused by spasmodic contraction of the muscles, and is apparently an attempt of nature to immobilize the hip joint and thus diminish the jar in walking. The limb at this stage is slightly flexed and, in some cases, abducted.

Atrophy of the muscles begins early in the disease, sometimes even before there is any pain, and continues throughout its entire course. The physical condition of the patient in the early stages is usually apparently good, in some cases the patient taking on a large accumulation of adipose tissue, thus giving an impression of health and vigor which in reality does not exist.

The second stage is marked by an exaggeration of all the early symptoms, with the addition of "night cries," suppuration and crepitation. Flexion and abduction of the limb, which were at first slight, now become marked, with the leg rotated outward. To overcome this position of the leg the pelvis is tilted, thus producing the apparent elongation of the thigh.

Abscess, which rarely occurs in the first stage, is a frequent and serious complication in the second stage of tubercular hip disease. The presence of pus indicates the destructive character of the disease, although extensive collections of pus may, in rare cases, undergo absorption without doing serious injury to the affected joint. Suppuration in hip joint disease varies but little from tubercular abscesses in other parts of the body, usually coming on gradually, with but slight constitutional symptoms, but as it progresses slight chills, followed by perspiration will occur, with loss of appetite, pallor and general malaise. Locally the abscess follows the fascia and the pus finds exit at the point of the least resistance, sometimes at a considerable distance from the seat of the disease.

The third stage is characterized by abduction, shortening, dislocation or ankylosis of the joint

followed by recovery, or death from systemic or visceral disease.

If recovery occurs, the symptoms, both local and constitutional, will gradually improve; the discharge gradually diminishes and the sinuses heal; the swelling and induration diminish, and the limb becomes more or less permanently fixed.

In fatal cases the anemia from excessive suppuration leads to death from exhaustion; the patient dying from amyloid degeneration of the internal viscera, tubercular meningitis or miliary tuberculosis, or from some intercurrent affection.

DIAGNOSIS.

The general and constant diagnostic signs of hip disease are: limited motion, muscular atrophy, lameness, attitude of limb, pain and swelling, all of which should be carefully considered in making a diagnosis of any affection of the hip, as by so doing we can often avoid some of the mistakes so often made, especially in the early stages, in arriving at a correct conclusion as to the condition of the joint. But when all has been said the fact remains that a diagnosis which rests on clinical signs alone is often unreliable; and, when any doubt remains, those of us who have not the necessary equipment for using the most modern diagnostic means, should at once refer the patient to a specialist who has. To adopt the expectant plan of awaiting developments, thus depriving the patient of the benefits of proper treatment in the early stages, as has been so often done in the past, and, I am sorry to say, is done even at the present time in many cases, is, to my mind, unprofessional and indefensible.

The symptom of "grating" so often mentioned in the text books is of but little value as a diagnostic sign, as it is never present in the early stages, and when it does appear the disease is so far advanced that the true nature of the lesion has long been determined.

Limited motion is one of the first symptoms to appear and one which is persistent throughout the entire course of the disease. The amount of limitation is often difficult to estimate in young children, as, through fright, they are very apt to resist examination. For this reason the surgeon should always begin his examination on the well side, and by taking plenty of time secure the confidence of the child before attempting to examine the affected limb.

Atrophy of the muscles is the result of reflex muscular spasm; begins early in the disease, and is an important symptom in attempting to arrive at a correct clinical diagnosis in the early stages. The atrophy is greater in tubercular hip joint disease than in any of the acute affections of the hip or in simple muscular disease, and is confined to certain groups of muscles. In the early stages the adductors are alone affected, the gluteal muscles atrophy, causing the characteristic obliteration of the gluteal fold. All of the muscles of the thigh and calf finally share in the general atrophy of the limb.

Lameness is another of the early objective signs; but, as this is simulated in nontubercular conditions of the hip, it is of but little value as a diagnostic symptom until, in the later stages, the attitude and fixation of the limb induce a position and gait that are characteristic of the disease.

PROGNOSIS.

The natural tendency of tubercular hip disease is to recovery, with more or less deformity. When the disease occurs in a person past the age of puberty it is more serious and more fatal than when it develops at an earlier period. The prognosis is also affected by the hygienic surroundings of the patient, the disease being much more fatal among the poorer classes.

The coexistence of some other disease, namely Bright's disease, tubercular meningitis, caries in some other part of the body, etc., render the prognosis grave. The course of the disease is favorably influenced by early and efficient treatment.

TREATMENT.

The first and most important requisite in the treatment of tubercular hip disease is to place the joint in a position of perfect rest. In the early stages, before any destructive process has taken place, complete rest offers the best chance of preserving the joint; while in the more advanced cases it affords nature a chance to preserve at least a part of the joint from invasion, and also by preventing friction offers the best opportunity for repair. Whatever retards the progress of the disease tends to relieve its symptoms and thus increase the power

of resistance, both local and constitutional, upon which the ultimate cure of the disease depends.

A great many methods for securing rest to the joint have been devised, but I will mention only two or three of the most important of these. The traction splint with its various modifications, is known as the American method and has probably been used more often than any other device. This splint consists of a pelvic band and an upright. The pelvic band is made of sheet steel about one-eighth of an inch in thickness and one and one-eighth inches wide, sufficiently strong to support the weight of the body, bent to conform to the shape of the pelvis, and so arranged as to cause no antero-posterior pressure. This band embraces about three-quarters of the pelvis at a point just above the trochanter. It is covered with leather and provided with a strap to be buckled around the pelvis. Four buckles are placed upon the pelvic band for the attachment of the perineal straps, the two on the front being placed directly above the attachments of the adductor muscles on either side of the genitals. Behind the buckles are placed much farther apart, to the outer side of the ischial tuberosity, upon which the weight of the body is to receive its principal support.

The pelvic band is bolted firmly to the upright at a slight inclination, corresponding to the inclination of the pelvis. The upright extends from the top of the trochanter to about two or three inches below the sole of the foot. It is turned inward at a right angle below the foot and is shod with leather or rubber. At about the middle of the upright is placed a support of light steel which is provided with a broad leather strap for the purpose of fixing the thigh to the brace and supporting the knee. In the Taylor brace, which has served as a model for all similar appliances, the upright is a steel tube into which slides a rod, supporting the foot part of the brace, the two parts being joined with a rack and pinion attachment and lock, so that the brace may be lengthened or shortened by means of a key.

Traction on the limb is made by plaster, preferably moleskin plaster, as that is far less irritating to the skin than rubber plaster. These plasters should be cut into strips corresponding to the lateral aspect of the thigh and leg; wide above and narrow below, reaching from the trochanter on the outer, and from the pubes on the inner side, to the malleoli. The lower ends are reinforced by a second layer of plaster and to them buckles are attached. The plasters are then applied to the limb and are held in place by a bandage which is smoothly applied and then sewed to hold it firmly in place. The object of the bandage is to secure the adhesion of the plaster and to keep it clean. The bandage can be replaced by a tight fitting stocking leg.

Another method of applying the plaster designed to obtain a better hold upon the limb, is that devised by Taylor and described by him as follows: "The first important object is to seize the leg in such a manner as to exert against it an unyielding force. This should be done in such a manner as will not interfere with the circulation, nor injure the knee, by unequal strain either below or above it. In other words, the whole leg should be grasped in such a manner that the knee will be supported. It may be done as follows: A strip of adhesive plaster long enough to reach from the waist to the foot, and from three to five inches wide at the upper and about one-third that width at the lower end, is taken and cut into five tails. A piece from four to six inches long is cut from the center tail and added to the lower end to strengthen it; and, if the patient is muscular, one or two more pieces are laid on the same place where a buckle is attached. Two similar straps are prepared, one for the inside and one for the outside and laid against the lateral aspects of the leg, the ends with the buckles beginning about two inches above the internal and external malleoli, and the center tails reaching the entire length of the leg and thigh, to the perineum on the inside and the trochanter on the outside. The lower strips or tails are then wound spirally around the leg to the pelvis and afterwards the other two pairs of tails, which are cut down to just above the knee, are also wound around the thigh in the same manner. When completed the thigh is involved in a network of strips of adhesive plasters, which act equally and without pressure on the whole surface. The leg has about one-fourth of the attachments, and the thigh three-fourths, which is found to be the right proportion to protect the knee equally from compression and strain. A few turns of the roller bandage are then made around the ankle just under the lower ends of the straps, which serve as a protection to the

flesh under the buckles, and then it is continued over the straps on the whole leg. Thus prepared the patient is ready for the splint."

The traction splint is applied in the following manner: The patient lying upon his back, the pelvic band is first adjusted and is strapped about the body. The perineal supports are then drawn firmly into place so that pressure on the upright does not move the pelvic band from its proper position, just above the trochanter. The brace is then pushed upwards against the resistance of the perineal bands, while the limb is at the same time drawn downwards and is fixed by attaching the straps to the buckles at the ends of the adhesive plasters. If the brace is provided with a windlass or ratchet, traction may be applied to the point of tolerance but care must be taken that the brace does not project so far below the foot as to more than equal the extra length provided by the high shoe on the well side. The knee band is then adjusted, and if desirable a strap may be placed about the ankle to assure greater security. If in walking the patient is inclined to tilt the foot downward and bear the weight on the toe, a strap may be attached to the middle of the foot piece and fastened to a buckle on the heel of the shoe with sufficient tension to hold the foot in the horizontal position.

By means of this brace the weight is borne entirely upon the perineal band, thus relieving the joint from all pressure and also from jar. The perineal bands should be accurately adjusted to pass upward in front, parallel to each other on either side of the genitals, to avoid pressure on the inner borders of the thigh; while behind they turn diagonally outward in order to pass over the tuberosities which are best adapted for weight bearing.

Before the traction brace is used in ambulatory treatment, distortion of the limb, if it be present, should be corrected: or if the disease is particularly acute, preliminary rest in bed until the subsidence of the symptoms is advisable.

To reduce the deformity by the traction brace, the patient should be placed in bed, upon a firm mattress; the distorted limb is then raised to slightly more than a sufficient angle to relax the contracted muscles and to straighten the lumbar lardosis; it is then abducted or adducted if necessary until the level of the pelvis is restored. The pelvic band is made to conform to this greater relative inclination of the pelvis by lengthening the posterior straps. The brace is then applied, the limb being held in the attitude of deformity by sling or support, and as much traction as the patient can tolerate is exerted by lengthening the upright. The direct traction exerted by the brace may be reinforced by a cord running over a pulley at the foot of the bed in line with the brace, and a weight attached. Efficient traction will very quickly reduce deformity caused by muscular contraction, and as this is lessened the position of the limb is changed until it finally lies extended and parallel with its fellow.

If adduction is combined with flexion, the perineal band on the well side is tightened from time to time, or a direct push against the opposite adductor region is exerted by means of a bar attached to the brace opposite the knee. In ordinary mild cases the deformity may be reduced by this means in from two to six weeks.

The brace should be worn day and night. The perineal bands may be loosened occasionally to allow of caring for the skin; but if the disease is acute, manual traction should be applied at such times until the brace has been readjusted. The adhesive plaster, if moleskin is used, may remain in place for several months without injury to the skin.

This form of brace is effective as a stilt and it is effective as a traction appliance, in the sense of relieving muscular spasm, in direct proportion to the care that is exercised in its adjustment. Traction by this means may be made effective, even to the point of fixation, as long as the patient is in bed or walking on crutches, but when it is used as a walking brace, as was designed by its inventor, constant traction is impossible, as the traction straps alternately relax and tighten as the weight of the body falls upon and leaves the brace in walking.

When stepping on the well foot the joint is subjected to the traction, but is relieved from it when the weight of the body is thrown upon the brace, thus making traction irregular and intermittent. Of course the pelvic band assures a considerable restriction of motion, but cannot give the perfect rest to the joint which is desirable. As it requires from ten to twenty pounds to separate the head of the femur one-eighth to one-fourth of an inch from the acetabulum in children it is unreasonable to expect that the feeble and intermittent traction exerted by the ordinary traction hip splint, when used in walk-

ing, can be sufficient to separate the bones from one another and prevent friction when walking, as was originally claimed for it.

The theory that motion of a joint which is diseased is harmless has, at the present time, few supporters, even among those who still adhere to the use of the traction splint.

In acute cases rest in bed with traction to the point of actual distraction is recognized as the best treatment, and when the patient is allowed to get about, the braced limb is made pendant by means of a high shoe on the well foot, and crutches, so that uninterrupted traction may still be exerted.

Thomas of Liverpool, writing at a time when in America it was believed that motion was essential to the well being of a diseased joint, said:—"The main obstacle to the cure of an inflamed joint is the friction and pressure of its surfaces; consequently the attainment of rest, that is of immobility of the articulation, ought to be the principle which should guide the treatment. Pressure and traction at night is employed for a time by means of a weight attached to the foot to prevent the tendency to distortion, as a temporary support to be used before the application of a suitable brace, the plaster bandage is often useful—but when the patient is allowed to get about this treatment, to my mind, is not to be compared with the traction splint.

"The plaster bandage to secure support should fit perfectly, consequently it should be applied as closely as possible. A close fitting covering of shirting is drawn on and covered with cotton flannel bandage, the parts more liable to be subjected to pressure being suitably protected. The plaster bandage should cover the lower half of the thorax and extend to the ends of the toes. It should be applied under traction, very carefully around the abductor region and the buttock, which should be entirely covered and supported at this point, in the line in which the jar of concussion is less to be feared than friction. The more an inflamed joint is moved the stiffer does it become, while the more effectually it is fixed, the sooner and more completely is its capability of movement restored."

Another method of treatment is that by means of the plaster bandage without crutches or high shoe. This method is commonly known as the German method. By this means the bandage is applied from the line of the nipple to include the foot, the limb being fixed in the attitude of slight flexion, abduction and outward rotation. Usually the first application of the bandage is made under anesthesia for the purpose of relaxing the muscular contraction and facilitating the application. The bandage is renewed at intervals of from two to four months. When the disease is cured and after the bandage is finally removed the Thomas hip splint, a piece of splint-wood or thin iron strip long enough to reach from the middle of the trunk to the lower third of the thigh, should be incorporated in the plaster. The bandage may be applied in the upright posture by means of the swing as used in the application of the plaster jacket, but is usually applied with the patient in the recumbent posture.

The short spica bandage is used as a routine treatment of hip disease in Lorenz's clinic in Vienna unless direct weight bearing causes pain. It is applied in the same manner as in congenital dislocation of the hip, the aim being to fix the affected limb in an attitude of slight flexion and abduction, the primary attitude of hip disease. As an adjunct to mechanical support and during the stage of recovery, or even in the treatment of cases of mild type, the bandage is very satisfactory, but as a routine treatment it is not a sufficient protection.

In the treatment of the most acute cases by Lorenz, the weight of the body is removed by a prolongation or stirrup of steel which projects below the foot, the two extremities being incorporated in either side of the plaster bandage in the neighborhood of the knee.

In the better class of cases a leather support provided with a steel foot-plate extending slightly below the foot and a joint at the knee is used. The short spica bandage in combination with the traction hip brace answers the same purpose and is more efficient, although more cumbersome.

The operative treatment has been purposely omitted from this paper.

Saving Doctors.—Knicker—"There are plenty of books telling how to save life while waiting for the doctor."

Bocker—"Yes. What we need is one telling the young doctor how to save life while waiting for the patient."—Harper's Bazar.

FRACTURES OF BONES OF THE FACE.

BY

GEORGE S. BIDWELL.

(1). Fractures of bones of the face are always due to some violence from without.

(2). These fractures are usually compound and comminuted.

(3). They repair much more rapidly than fractures in other parts of the body.

SUPERIOR MAXILLARY AND MOLAR BONES.

Displacement is usually slight if any and reduction easy. Pressing of adhesive plaster, compresses and bandages are all that are required. In case the fracture of the superior maxilla extends to the alveolar process, cutting may be necessary. In such a case, too, the fracture immediately becomes compound, even though the skin is not divided, for the teeth projecting into fractured bone furnish a path for infection to travel. In fracture of these bones, we are to keep in mind the possibility of disease involving the antrum, which might imply necrosis with all its possibilities.

NASAL BONES.

Fracture of these bones may extend to the superior maxilla or to the cribriform plate of the ethmoid. This latter is a source for especial anxiety owing to the possibility of septic meningitis. The prognosis in these cases should always be guarded. Widespread ecchymosis and cellular oedema is likely to occur owing to forcing of blood and air into the loose cellular structures surrounding.

Repair is so rapid in this fracture, that it is necessary to effect reduction without any delay. Reduction is generally easy and tendency to recurrence of the displacement is usually nil. In some cases, however, the displacement does not occur and it is necessary to arrange some method of retaining the fragments in place. One author suggests a plan which he says has yielded good results in his hands. It consists in transfixing the nose beneath the fragments with a stout pin and then steadying them by a piece of adhesive plaster crossing over the nose and caught at both ends of the pin.

Reduction is best effected by probe or director passed into the nares.

FRACTURE OF SUPERIOR MAXILLA.

This may be single or double, single fractures are said to be most common at or near the median line.

It is stated that fractures of the ramus and condyloid process are rare and are commonly associated with fracture of surrounding bones. Fractures of the coronoid process are extremely rare.

In fracture of the body the displacement is manifest and the diagnosis easy. The teeth and alveolar process are nearly always involved and form a serious complication.

In fracture of the ramus, displacement is said to be slight or altogether absent. A positive diagnosis is not always easy.

In fracture of the body, the strictest antisepsis should be maintained, for suppuration with necrosis and consequent failure in union and great deformity may result.

Although reduction is easy, the return of the displacement is also easy and a great variety of appliances have been used to retain the fractured bone in place. I cannot mention them all here. The simplest is the four tail-bandage, but I think the most satisfactory is wiring the fractured ends.

FRACTURES OF THE FEMUR.

BY

DR. BURBANK.

From three to six per cent of all fractures are of the femur. The middle third is most frequently involved, then the neck, upper third and lower third.

Fractures of the neck of the femur are most often found in old people. Probably the slight change in the angle of neck and shaft as years advance has some influence in the production of such fractures in the old, but the chief predisposing cause is the senile change in the bone structure. The cortical shell becomes thinner while the spongy portion increases. The usual cause is a fall, such fall being the result of a misstep or a slip. There are several varieties of these breaks, and one will find as many methods of classification as he consults text books.

The symptoms are pain increased by active or passive motion, obliteration of inguinal fold, the fold of the buttocks is less distinct than that on the well side, the leg is rotated outward

and drawn up so as to produce from one-half to four or more inches of shortening. In impacting cases the shortening is usually less than an inch, in intracapsular ones the shortening is slight at first but as the capsule yields to pressure the leg is drawn upwards. There is some relaxation of muscles, especially the gluteals.

Crepitation can be frequently obtained, but if impaction is probable, it is better not to use much force in trying to make an exact diagnosis.

The prognosis is to be guarded because of the physical condition in which the patient is found. A decrease of earning capacity is certain, and in many instances there will be no bony union.

Fractures of the shaft of the femur are more usually caused by direct violence but such fracture may be caused by indirect violence or even muscular action. The contraction of the powerful muscles of the thigh cause angular deformity and shortening of the limb.

The main points to be considered in diagnosis are crepitation, false point of motion, shortening, loss of function and pain.

In fractures of the upper third, the upper part of the bone is usually abducted and drawn forward, while the lower piece is pulled up and inward. A similar condition is found in breaks involving the middle third.

Fractures of the lower third are apt to have the lower piece of bone drawn upward and backward, while the upper fragment is displaced forward and inward.

We must expect some shortening in all fractures of the shaft of the femur. Some skilled and experienced surgeons surrounded by a staff of assistants and nurses claim to have obtained perfect results. But from my observations in post-graduate work, such men rush into print with much more confidence than is shown in the clinic. As reliable statistics as are available give a decreased earning capacity of about 20% and an average period of twelve months for complete recovery.

At the lower end of the femur we may find fractures of one or both condyles. When both are broken, the bone is generally split for a short distance and what is called a T fracture results. The condyle, if broken, can be felt above its normal position and can be moved independent of the shaft. In T fractures, the condyles are broadened, the femur shortened, and the leg can be passively abducted and adducted. Prognosis should be made for recovery with limited motion.

Our secretary wisely limited me to ten minutes so in my remaining time I can only note the main lines of treatment and leave details to be brought out during the discussion.

The care of fractures near the hip joint in old people, is largely a question of good nourishment, perfect cleanliness and the avoidance of bedsores. The patient should be placed on a fracture bed, if such is available, if not a firm hair or wool mattress will suffice. If the patient's physical condition warrants the giving of ether, it should be administered for purposes of diagnosis and also to aid in reduction. Traction by an assistant at the foot, and manipulation by the surgeon will bring the fragments nearly in apposition. Continuous traction by some form or modification of Buck's extension is probably the best way to hold the limb in place. The elaborate splints of Sayre and Phelps have proven valuable to some surgeons, but I believe are not in general use. The amount of weight to be attached to a pulley should be from five to ten pounds. The time of application of weights varies from six to eight or more weeks.

When called to treat a fracture of the shaft of a femur, we should get a careful history of the case, give an anaesthetic and make as perfect a diagnosis as is possible. If in any doubt as to the condition present, council should be insisted on and his aid secured not only for diagnostic purposes but to assist in reducing and dressing the fracture. The entire length of the limb should be thoroughly cleansed and dried. One assistant should give the ether and one hold the foot and leg. The operator should be free to use his time and hands for local manipulation. After the muscles are relaxed, the assistant at the foot should make sufficient steady traction to bring the limb to its original length. When the operator feels that he has the fragments in place he should personally measure the two limbs, and if he still finds shortening there must be still more traction employed. Adhesive strips of a width of three inches should be applied to the limb from a point at, or slightly above the break, to a spreader, two or three

inches beyond the bottom of the foot. To assist in holding the long strips in place one may use circular strips at intervals. Over these should be wound a snugly fitting roller bandage extending to the body. A pad of cotton may be placed beneath the knee to prevent pain from hyperextension of that joint. The limb should be placed on a long posterior splint, and a short side splint should be made use of. These should be well padded with cotton and firmly wound with bandage. The splints should be fastened to the limb by bands of adhesive strips. The pulley should be placed high enough to nearly lift the heel free from the posterior splint. Sufficient weight should be made use of to tire the muscle and retain extension, be that weight five or forty pounds.

The patient should rest on a firm mattress, and I prefer to elevate the foot of the bed so that the weight of the body aids in counter-extension. Frequent visits should be made at first in order to correct any misfit of dressing and to see that the limb is kept in place. Care should be taken to look after diet and environment of patient, for it is no trivial matter to place a rugged, active person flat on his back for a month or two. In most cases traction can be dispensed with in six to eight weeks, but if a careful measurement, two or three days after removal of the weight, reveals shortening due to lack of bony union, the weight must be at once replaced. Passive motion may be used in about six weeks, and three to six months will probably pass before a very useful limb is had.

I have described the plain Buck's extension not because other methods are not as good but because it is more familiar to myself. It is my sincere belief that in the hands of those familiar with the application of various forms of the inclined plane, such a method as Hodgen's is preferable to the one which I have described; because it answers the theoretical and, I think, practical requirement of bringing the lower fragment outward and forward to correspond with the upper.

The action of the powerful gastrocnemius should be borne in mind when treating fractures of the lower end, and an inclined plane made use of.

DISLOCATION OF THE LOWER JAW.

BY

H. H. HAYWARD, M. D.

As my experience in this dislocation is limited, I shall simply attempt a brief review of the subject, as gained from reading the text books.

The bones entering into the formation of this articulation, are the temporal and inferior maxillary, and are attached by four (4) ligaments, viz., external and internal lateral, stylo-maxillary and capsular, and an intra-articular fibro cartilage.

The articulation is a double or bilateral condyloid joint, the condyle of the inferior maxillary and the anterior part of the glenoid cavity of the temporal bone being the parts in direct contact. The jaw is attached by the external lateral ligament forming a part of the synovial capsule, and the internal lateral ligament extending from the spinous process of the splenoid bone to the margin of the inferior dental foramen.

The stylo-maxillary ligament extends from the styloid process of the temporal bone to the posterior border of the ramus of the jaw. The action of the joint is a rotary motion caused by alternately elevating and depressing the inferior maxillary. The displacement of this articulation is nearly always forward, the condyle resting in front of the articular eminence at the root of the zygoma and is an exaggeration of the normal forward movement of the condyle in opening the mouth.

This dislocation according to the American Text Book of Surgery constitutes 4% of all dislocations.

The usual cause is opening the mouth as in laughing, yawning and during manipulation about the mouth as in dentistry.

The condyle passes in front of the line of the lateral ligaments and becomes fixed by the elevation of the angle of the jaw. The symptoms are inability to close the mouth and in unilateral dislocation the chin is turned toward the opposite side. The dislocation is reduced by forcible pressure with the thumbs downward and backward upon the lower molar teeth and is generally easy to do, rarely requiring the use of an anaesthetic.

Stimson speaks of a backward and also upwith. It may be preceded by bronchitis and, fracture of the jaw, the result of a blow upon

the chin and one case I am able to find of an outward dislocation, but these are so rare, except as they come under the treatment for fracture, that I shall dismiss them.

BRONCHO-PNEUMONIA.

BY

J. H. JUDKINS.

In pressing this subject the writer is fully aware of the fact that whatever may be said along this line—what interests us most—is the prevention and treatment of this common and dangerous disease.

Broncho-pneumonia is an inflammation of the minute bronchi and air vesicles of the lung.

The Pathology of this disease will not be discussed in this paper because the subject is so fully covered by various authors and also because of the fact that the writer, not being a pathologist, cannot give reports of original work along this line.

Etiology. Broncho-pneumonia is a disease prevalent among the young and aged. In the young it occurs associated with measles, whooping cough, scarlet fever and diphtheria and may appear as an independent disease. Exposure and impure air may also be predisposing causes in young and old alike. Among the aged, general debility and chronic diseases may cause broncho-pneumonia. Particles of food may convey the agents of inflammation to the lobes of the lung. Long continued recumbent position may be a cause. Bronchial secretions are retained in coma, apoplexy or allied cerebral states, and, owing to gravitation, reach the minute bronchi.

Symptoms. Broncho-pneumonia may appear as before stated both independent or *primary,* and *secondary* as when met with in complications. The primary form is met with generally in adults. This form simulates in a great measure acute bronchitis of severe grade. Fever, pain, dyspnoea and cough are present. The temperature is irregular ranging from 101° to 104° F. and in some cases is high and without remission which is of itself a serious indication. Expectoration is thick and glairy and ofttimes contains particles of blood.

The secondary form is more frequently met with. It may be preceded by bronchitis and, the onset of true broncho-pneumonia developing slowly, the physician learns that the increasing respirations and higher temperature stamp the case as more serious than at first considered, the pulse becoming more frequent and rapid if not irregular. An initial chill is rare in both forms of the disease. The duration is from 2 weeks to 4 weeks and in some cases even longer. The fever terminates by lysis and never by crisis. At the beginning of an attack subcrepitant and sibilant rales are heard. Small areas of consolidation develop. Rapid breathing cyanosis, dusky skin, blue extremities are symptoms in all serious cases.

Treatment. Proper protection from exposure from cold during convalescence from measles, whooping cough, etc., and the timely treatment of inflammations of nose, larynx and larger bronchi form an important part of prophylaxis. Fresh air at a temperature from 68° to 70° F. constitutes a most important factor in the treatment. The air of the room should also be well ladened with moisture generated from a craup kettle or other suitable vessel. Local measures should consist of hot flaxseed covered with waxed paper or oiled silk to prevent cooling. Frequent changing made without cooling the body adds greatly to the efficiency of this remedy. After the more active symptoms have subsided the Linseed jacket poultice may be replaced by one of absorbent cotton and this also should be covered with waxed paper or oiled silk. For older patients many authorities recommend iced poultices to the chest not only for its effect upon local conditions but also for its effect upon temperature of the body and nervous symptoms.

The Diet in this disease when there is little or no desire for food becomes a difficult problem and much depends upon supporting the bodily strength, especially when the illness is protracted and the patient of enfeebled constitution. Milk, eggs, albumen, broths, etc., should be included in the diet. The competent nurse can prove her ability and proficiency at this time by her success in preparing such food as will prove as tempting as it is necessary to the patient.

The general measures are varied and different methods of treatment have their advocates. High fever calls for cold sponging or as may be practical in extreme cases the gradually cooled bath or the cold pack. The cases of abrupt beginning are greatly benefited by the tempor-

ary use of Veratum Veride. Tincture Aconite has a small sphere of usefulness in the treatment of broncho-pneumonia. Its use undermines the strength of the heart; and it is far less desirable than Veratum Viride both in its temporary effect and the dangerous after effect. Acetanilid—another powerful heart depressant should be used with extreme care as its effect is positive in its depression of the heart. Acetanilid and tincture of aconite, could both be well omitted from any and all cases of broncho-pneumonia and thereby make a most decided and favorable change in our mortality statistics. Stimulating expectorants should be used. Muriate of ammonia is most effective if the stomach does not rebel. If so the fresh crystals of carbonate of ammonia act most favorably. Dover's powder and codeine are useful when nervous symptoms and sleeplessness demand them. Wine of ipecac pushed to the point of emesis is indicated in children when the bronchi contain an abundance of secretion that cannot be expelled. The most valuable remedy I have found in combating this disease is *Nuclein.*

Nuclein as a remedy in this particular disease was first called to my attention by Dr. C. F. Camp in a paper read by him before this society at one of our first meetings. Since that time by repeated trials the writer has been convinced of its efficiency.

Cardiac Stimulants are required if the heart's action becomes weakened.

The ammonia preparations are useful as heart stimulants as well as stimulating expectorants. Strychnine and alcohol are of permanent importance during the course of the disease. Serious cases are benefited by inhalation of oxygen gas and by injections of normal salt solution. Salt solution not only increases arterial tension but stimulates *Phagocytosis.* We have no specific known to the medical profession for this disease unless it be anti-streptococcus serum which is useful only in the streptococcus form of broncho-pneumonia.

A Plea for the Use of Antidiphtheria Serum in the Laryngitis of Measles.—A. A. Warden (*The Lancet,* May 15, 1908) believes that in the laryngitis of measles we should not wait for the result of a bacteriologic diagnosis, but inject serum immediately. Laryngitis is a frequent complication of measles and is occasionally membranous in character, while nondiphtheritic membranous laryngitis is rare. We should inject the serum as early as possible when once laryngeal symptoms are noted. One case illustrative of the advisability of the author's plan is described.—*New York Medical Journal.*

Toxicity of Mother's Milk.—Raymond Francois (*Journal de Médecine de Paris*) believes that he has seen cases in which the milk of its own mother has been an evident poison to an infant, while it would thrive on the milk of a wet nurse or on artificial feeding. He believes that there are conditions in which the human milk has a toxic effect on the infant. This poison is evidently in the milk, and is due in general to some form of intoxication in the mother, the poison of which is carried over into the milk. It has been shown that coloring and other matters, diphtheria, antitoxin, etc., are carried over into the milk. Menstruation, dyspepsia, constipation, and similar conditions may produce this poison.—*Woman's Medical Journal.*

Typhoid Fever in Infants.—J. L. Morse (*Pediatrics,* November, 1908) reports 4 cases of typhoid in infants of from eleven to nineteen months in connection with a milk-borne epidemic. In but 2 could direct exposure to infected milk be proven. The course of the disease in these patients corresponds to that usual at this age. The duration of the fever was comparatively short; the temperature fell by a gradual lysis without marked remissions or intermissions; and signs in the lungs were found more commonly and were more marked than is usual in later life. There were no marked nervous symptoms, but the infants were drowsy and apathetic during the febrile period. The tongue was never very dry or much coated. The relatively slow pulse rate in comparison with the height of the temperature, which is of so much importance in the differential diagnosis of this disease, was not found in these cases. A rapid pulse probably does not count as much against typhoid at this age, therefore, as in later life.—*American Journal of Obstetrics.*

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EDITORIAL.

The idea of having the sick cared for in hospitals or some similar institution has gained in favor so much during the past few years that people who considered the home as the best place to be sick in, are now recognizing the desirability of hospital care and treatment for nearly all illnesses either medical or surgical.

Primarily, hospitals were provided for the care of the poor only, those who had no homes, or homes with no conveniences for the care of the sick, and again who had little or no means with which to secure medical services or proper medicines and food. These hospitals were established by philanthropic people to provide a place where the poor could receive proper treatment and consequently were institutions of charity. While gratuitous work is still the larger part of the work now done in hospitals, yet there are a sufficient number of patients seeking hospital care who are not included in the charity class, to justify discussing the new relations which are thus brought about between the family physician, the patient, and the physicians at the hospital.

Although what we shall say has reference primarily when patients expect to pay for their hospital care and treatment the same as they would expect to pay for such services rendered at their homes, yet in a general way it will be equally applicable when patients admitted are unable to pay for treatment and little if anything for hospital care.

Before going further it may be well to define the relation of patients to a hospital as determined by their financial condition and the amount they pay for hospital care and professional treatment.

There are two well defined items of expense, first the hospital expense, a stated amount per week which includes such items as nursing, food, washing, medicines, etc.; and second (for patients who are able to pay more than the hospital fee) something for professional services to the physician who has the case in charge.

This naturally divides patients coming to a hospital into two classes, first those patients whose financial arrangements are simply with the hospital. They pay nothing to the physician or surgeon for professional care, and are known as hospital patients. Second, those patients who pay the full hospital fee and in addition to this pay something to the attending physician and surgeon for professional services, the same as they would do should they receive his services at their homes; these are known as private cases.

It is unfortunate that many patients who come to a hospital have the idea that the physician or surgeon in attendance receives a salary from the hospital. This is not the case; the services of these physicians are absolutely gratuitous to hospital cases—a willing charity to people who through misfortune need it—

but are not intended for people who are financially able to meet their expenses.

It is obvious that if patients who are able to pay for medical attendance in addition to hospital care are admitted to a hospital as hospital cases, that is, paying something for the hospital care but nothing for professional services, it would be a marked injustice first to their family physician who would be entitled to the case and to a reasonable compensation for caring for it, and secondly, to the physician in attendance at the hospital in requiring his services gratuitously when charity was not needed. The conditions are exactly the same in a surgical case where the family physician for any reason does not wish to continue to have the care of the case. If the patient is able to pay the physician at home what reason can there be for not paying the physician or surgeon for caring for the case at a hospital?

We can hardly believe that a practicing physician would deliberately send a patient to a hospital as a hospital case and ask the physician or surgeon in attendance at the hospital to care for the case gratuitously if the patient were able to pay for such care, or that he would ask a hospital to accept a patient at reduced rates if the patient did not need charity. Certainly such an action would not be becoming to a professional gentleman.

However this may be, it is an undisputed fact that patients able to pay for professional services seek admission to hospitals as hospital patients simply to save the expense of professional services.

Until hospitals adopt some scheme for looking up the financial condition of patients before they are admitted, we see no way of regulating this matter excepting through the natural one of mutual honesty.

There is no reason why the family physician should discriminate in favor of the patient and against the attending physician. We believe that in most cases the attending physician would much rather treat a case gratuitously who did not need gratuity than to have patients pay for services when they were not able to and the payment was a financial burden.

Criticism cannot, however, be confined to the family physician and the patient. The physician at the hospital may thoughtlessly or otherwise criticize the diagnosis or treatment of the family physician. It is not impossible that the patient may interpret a different diagnosis or change in treatment as an indication that all that had been done was wrong and so report to the friends. Certainly the attending physician cannot be too careful in the discussion of the case and see that a correct understanding is had by both the patient and the physician.

We do not believe that hospital physicians or surgeons would deliberately criticize the treatment of a patient to prejudice the patient against the family physician, certainly such a thing would be unbecoming in a professional gentleman and ought not to be tolerated.

It seems logical that the relations existing between physician and patient, when the patient is taken to a hospital, should be practically the same as in an ordinary consultation. The family physician brings the patient to the hospital for examination and diagnosis, and for various reasons the subsequent treatment is to be carried out by the consultant at the hospital. The family physician does not relinquish his right to the patient after the hospital treatment and the attending physician or surgeon does not acquire any claim to the future treatment of the case and is in duty bound to return the case to the family physician when it is discharged from the hospital. The family physician has a right to expect the same consideration in regard to diagnosis and treatment, when he takes a patient to a hospital as when he calls for a consulta-

tion at the home of the patient, and the attending physician has a right to expect honest treatment by the family physician in regard to the financial condition of the patient.

It will happen occasionally that a patient will elect to continue treatment for a time with the attending physician, or that the attending physician may wish to keep a record or continue the observation of a case after it leaves the hospital. If these things are simply explained and mutually arranged, there need be no cause for misunderstanding or trouble between the physicians.

When physicians will be honest with themselves and with each other, this part of the subject will not need discussion. In the meantime a bureau of inquiry in connection with hospitals to determine the financial condition of the patient will help to a satisfactory result.

The Medico-Legal liability of hospitals and medical men connected with hospitals is an important subject. It has been carefully considered in an editorial in the September number of the Montreal Medical Journal and is as follows:

THE HOSPITAL AND ITS STAFF.

A decision of interest to hospitals in general was recently given in the Court of Appeal in England by Lord Justice Farwell in the case of Hillyer *vs.* The Governors of St. Bartholomew's Hospital. The facts of the case seem to have been that Dr. Hillyer brought action against the hospital because while under an anæsthetic, being examined by Mr. Lockwood, his arms were allowed to hang over the table and to come in contact with a hot-water tin: there was also pressure upon the arm which, he claimed, caused traumatic neuritis and paralysis. In throwing out the appeal, the judge stated that no negligence had been proved. But the most interesting part of the judgment concerns the relation of hospital and staff. A hospital, like any other public body, is liable to responsibility for the acts of its servants notwithstanding the charitable nature of the work it may do; but the surgeon, the assistant surgeon, the house-surgeon and the administrator of anæsthetics are not servants of the Governors of the hospital. Lord Justice Farwell said: "They are all professional men employed by the defendants to exercise their profession to the best of their abilities according to their own discretion; but in exercising it they are in no way under the orders or bound to obey the directions of the defendants. The true relation of the parties is, in my opinion, well stated by the Chief Justice in 'Glavin *vs.* Rhode Island Hospital' where the Chief Justice said:—'Here the physicians or surgeons are selected by the corporation or the trustees. But does it follow from this that they are the servants of the corporation? We think not. If A out of charity employs a physician to attend B, his sick neighbor, the physician does not become A's servant, and A, if he has been duly careful in selecting him, will not be answerable to B for his malpractice. The reason is that A does not undertake to treat B through the agency of the physician, but only to procure for B the services of the physician. The relation of master and servant is not established between A and the physician. And so there is no such relation between the corporation and the physicians and surgeons who give their services at the hospital. It is true the corporation has power to dismiss them, but it has this power not because they are its servants but because of its control of the hospital where their services are rendered. They would not recognize the right of the corporation, while retaining them, to direct them in their treatment of patients.' "

The further statement is made that even nurses and orderlies, even if admitted to be serv-

ants of the governors of a hospital cease to be so as soon as the doors of the operating room have closed upon them, and come under the sole orders of the operating surgeon: "the surgeon is for the time being supreme and the governing body cannot interfere with or gainsay his orders. This is well understood, and is indeed essential to the success of operations; no surgeon would undertake the responsibility of operations if his orders and directions were subject to the control of or interference by the governing body. The nurses and orderlies, therefore, assisting at an operation cease for the time being to be the servants of the defendants, inasmuch as they take their orders during that period from the operating surgeon alone and not from the hospital authorities."

Such decisions, apart from the legal points involved, tend to show that the law is in sympathy with the good faith of properly run charitable institutions; and the fact that hospitals are being protected more and more from the attacks of those who have grievances, will not lessen their care of their patients in the slightest, because the quality of their work is upheld by motives so much higher than those of mere self-protection.

The subject of the treatment of tuberculosis is being discussed in practically every state in this country as well as all European countries. The world is thoroughly aroused to the dangers of this disease and is also alive to the fact that it can be controlled by proper hygienic conditions and if cases are taken in time it can be cured. The importance of a special climate for the treatment of this disease is not considered of importance and cases are treated successfully in all climates, nutritious food and pure air being the principal treatment.

It is not necessary to subject patients to the expense and hardships of travel when they can be treated satisfactorily at home. Many times the hardship of a long journey will materially shorten the life of the patient.

The following from the *Buffalo Medical Journal* gives some idea of the folly of sending tubercular patients away, and also of what is being done in many of the states to control the disease:

"Cruel and inhuman practises are alleged in a statement given out a few days ago by the National Association for the Study and Prevention of Tuberculosis against the eastern doctors who persist in sending dying cases of consumption to the southwest.

Fully 7,180 persons hopelessly diseased with tuberculosis annually come to die in the states of California, Arizona, New Mexico, Texas and Colorado, most of them by order of their physicians. The statement, which is based upon the testimony of well known experts, and all available statistics, shows that at least 50 per cent. of those who go to the southwest every year for their health are so far advanced in their disease, that they cannot hope for a cure in any climate, under any circumstances. More than this, at least 60 per cent. of these advanced cases are so poor that they have not sufficient means to provide for the proper necessaries of life, which means that 4,315 consumptives are either starved to death, or forced to accept charitable relief every year.

It is not an uncommon thing, the National Association declares, for whole families, who can hardly eke out a living in the east, to migrate to the west in the hope of saving the life of some member of the family. In most instances, the abject poverty of such cases forces them to beg, or to live on a very low level. Often consumptives who cannot afford the proper traveling accommodations are found dead on the trains before reaching their destination. The resources of almost every charitable organization in the southwest are drained every year to care for cases which would be self-supporting in their eastern homes.

It costs, on an average, at least $50 per month for the support of a consumptive in the southwest, including some medical attention. The National Association strongly urges no one to go to this section who has not sufficient funds to care for himself at least one year, in addi-

tion to what his family might require of him during this time. It is also urged that no persons who are far advanced with tuberculosis go to so distant a climate.

Consumption can be cured, or arrested in any section of the United States, and the percentage of cures in the east and the west is nearly the same. Any physician, therefore, who sends a person to the southwest without sufficient funds, or in an advanced or dying stage of the disease, is guilty of cruelty to his patient. Renewed efforts are being made to stop this practice, and to encourage the building of small local hospitals in every city and town of the country. Attempts are also being made in southern California and in Texas to exclude indigent consumptives or to send them back to the east.

Appropriations of over $4,000,000 for the suppression of consumption have been made by twenty-eight state legislatures in session during the past year, according to a statement issued recently by the National Association for the study and prevention of tuberculosis.

Since January 1, 1909, forty-three state and territorial legislatures have been in session. Of this number, twenty-eight have passed laws pertaining to tuberculosis; eight others have considered such legislation, and in only seven states no measures about consumption were presented. In all, one hundred and one laws relating to the prevention or treatment of human tuberculosis were considered and out of this number, sixty-four were passed.

Of the sixty-four laws passed, fourteen were in reference to building new state institutions. New state sanatoria for tuberculosis will be built in Pennsylvania, Connecticut, where three will be erected, Arkansas, Oregon, South Dakota, North Dakota and Florida. In New York, North Carolina, Indiana, Massachusetts, New Hampshire and Maine, appropriations have been made for enlarging sanatoria, already being built or in operation. There are now twenty-seven states where such institutions have been established. Every state east of the Mississippi, except Illinois, West Virginia, Kentucky, Tennessee, South Carolina and Mississippi have provided hospitals for tuberculosis patients.

Five states, Illinois, New York, Ohio, Minnesota and Iowa, passed laws giving their county officers power to erect tuberculosis sanatoria without resorting to a special vote. In Maine, Connecticut, Rhode Island, New Jersey, Michigan, Iowa and Kansas, laws providing for the strict reporting and registration of tuberculosis were passed. Only five other states, including the District of Columbia, have such laws. The National Association considers laws of this character as the first requisite in an organized movement against tuberculosis.

Laws prohibiting promiscuous spitting in public places, were passed in Maine, Pennsylvania, New Jersey, Kansas and Connecticut. Spitters in these states will be prosecuted and fined.

Ten states have this year granted nearly $100,000 to be spent only for the education of the public about tuberculosis. In some states traveling exhibitions will be used, while in others lectures and literature will be the chief means of education. The states making provisions of this sort are California, New Jersey, Kansas, New York, Rhode Island, Iowa, Minnesota, Porto Rico, Delaware and Texas.

The statement of the National Association calls particular attention to one fact which shows the remarkable interest in anti-tuberculosis work, evoked during the past year, namely, that fully one-third of the $4,000,000 appropriated this year is by special legislation and for new work. The last Congress appropriated, in addition to this sum, nearly $1,000,000 for the maintenance of the three federal sanatoria in New Mexico and Colorado. It is estimated besides that the numerous county and municipal appropriations made or to be made for tuberculosis work for next year will aggregate at least $3,000,000, making the official public expenditures in the United States for the wiping out of tuberculosis at least $8,000,000."

PERSONAL.

Dr. E. J. Moran, a graduate of the University of Vermont College of Medicine '09, has located in Comington, Mass.

Drs. H. F. Powers and F. G. Riley, both graduating in the class of '09 from the University of Vermont College of Medicine, have positions as internes at the Fanny Allen Hospital.

Dr. Bingham H. Stone, Director of the State Laboratory of Hygiene and Professor of Bacteriology and Clinical Microscopy, has gone to Berlin to spend three months in laboratory study.

Dr. M. B. Hodskins of Palmer, Mass., who has been connected with the State Hospital for Epileptics at Palmer, is spending a year in Europe studying.

Dr. J. J. Ross, who finished his term of service as house surgeon at the Mary Fletcher Hospital last August has bought the practice of Dr. H. H. Seeley in Richmond, Vt., and will locate there. Dr. Ross had accepted a position in a medical school in China but was obliged to resign on account of the feeble health of his mother who was not able to take the journey with him and he did not feel he could leave her alone.

Dr. E. A. Carpenter, class '09, U. V. M., has located in Jamaica, L. I.

Dr. Lee Thomas, graduate of the U. V. M. College of Medicine '09, has accepted a hospital position at King's Ford, L. I.

Dr. H. L. Pierce, class of '07, U. V. M. College of Medicine, has located in Brooklyn, N. Y.

Dr. H. R. Watkins and Dr. F. W. Sears will open an office in a few days in the Kelley block on South Union street. Dr. Watkins will attend to a general office practice and Dr. Sears will specialize on nervous diseases.

Dr. Charles H. Mayo, Rochester, Minn., will deliver two lectures at the University of Maryland, November 9 and 10, on "Diseases of the Thyroid Gland," and on academic day he will receive from the university the honorary degree of LL. D.

Dr. V. M. Burdick of Dexter, Maine, a graduate of the U. V. M. College of Medicine, class of 1887, died August 23rd, of cancer of the stomach.

Dr. L. A. Heidell, Rutland, Vt., has closed his office and gone to New York and Baltimore for post-graduate work.

Dr. J. R. MacGuire of West Rutland, Vt., died August 24, 1909, of cancer of the stomach.

NEWS ITEMS.

Tuberculosis day was observed throughout Berks county, Pennsylvania, September 20, when war against the disease was begun by the Tuberculosis Aid Society. Appeals were sent broadcast throughout the county and in Reading $20.000 was raised. It is expected that the surrounding country will raise $5,000 or more. The money will be devoted to the establishment of a sanatorium for the treatment of tuberculosis.

The Kansas Tuberculosis Exhibit, which has been on exhibition in various towns of the state for about six weeks, is attracting a great deal of attention and a schedule has been arranged for to the first week in January.

The State Charities Aid Association and the State Department of Health of New York are once more cooperating in a joint campaign for the prevention of tuberculosis. Exhibits will be sent to 42 county fairs this fall.

The Wisconsin Council of the Improved Order of Red Men, at its annual convention in Galesville, August 12, decided to build a tuberculosis sanatorium in Douglas county, to cost $7,000.

A clinic and dispensary for the treatment of tuberculosis among negroes was opened August 3 in Atlanta, with Dr. J. Ansley Griffin in charge, and Drs. Julius E. Sommerfield and Wesley E. Taylor as assistants.

Miss Mary Harriman, eldest daughter of Mr. E. H. Harriman, has obtained an old Erie ferryboat and presented it to the Brooklyn Committee on the Prevention of Tuberculosis to be used as a floating day camp for tuberculosis patients. This ferryboat is now undergoing repairs, and will go into commission as soon as it is in good shape. It will accommodate more than 100 patients. The money collected by the Red Cross Committee by the sale of the Christmas stamps will be used in carrying on the work.

The war against tuberculosis in New York State is beginning to show results.——Dr. E. H. Porter, State Commissioner of Health, has authorized the establishment of a camp at East Bloomfield, Ontario county.—Rochester is to have a city hospital.—Yonkers is doing creditable work for its tuberculosis.—Ontario county has made an appropriation for a tuberculosis hospital.—Ex-Governor Odell has endowed a hospital for Orange county at Newburgh and Elmira has received a similar donation from Mr. and Mrs. Rapelyea.—Poughkeepsie has a model day and night tuberculosis camp.—Buffalo and Rochester have also made special provisions for the care of their tuberculosis patients.—The Woman's Antituberculosis League of Albany has planned for a "Button Day" on Labor Day, September 6.

At the farmers' meeting at Landenberg, August 27, 5,000 people were in attendance. The important phase of the gathering was the launching of the antituberculosis campaign for pure milk. The meeting was addressed by dairymen, physicians and educators from various parts of the country.

An investigation made during the summer at the Sea Breeze Hospital, maintained by the Association for Improving the Condition of the Poor, indicates that from 25 to 30 per cent. of the small school children in the poorer tenement districts of New York City are infected with tuberculosis. Up to the middle of August, 728 children had been tested for tuberculosis at Sea Breeze, 381 boys and 347 girls. Of this number 205 and 281 respectively showed a positive reaction to the tuberculin test. The percentage of reaction among the girls was much higher than among the boys. The reaction in many instances may have meant only a tuberculous gland which would probably lead to nothing serious.

A plan is proposed to amalgamate the Detroit College, Detroit College of Law and the Detroit College of Medicine and Surgery into an institution to be known as the University of Detroit.

The latest aspirant for honors in the field of medical journalism is the *Journal of the National Medical Association,* an association with a membership limited to colored physicians, dentists and pharmacists. The journal is published quarterly at the Tuskegee Institute, Alabama, and is creditable in every way.

Financial control of the Post-Graduate Medical School and Hospital of Chicago, which has been held by Dr. Franklin H. Martin since its organization in 1888, has been sold to Dr. William L. Baum, a member of the board of directors for fifteen years, and for several years treasurer of the institution. Dr. Emil Ries has been elected secretary, vice Dr. Franklin H. Martin, resigned, and Dr. Otto J. Stein a director, vice Dr. Frederick A. Besley, resigned.

More than 1,000 cases of typhoid fever have been reported to the Board of Health of New York City during the past ten weeks. The distribution of the cases is such that they cannot well be attributed to returning vacationists, and it seems quite probable that the Croton water may be to blame. Thus far the Board of Health cannot ascertain that there is any more typhoid fever in the watershed than usual. It is supposed by some that the heavy rainfall in August after a long drouth was instrumental in washing infected material into the streams that supply the city.

The new law regulating the practice of medicine in Arkansas went into effect August 6. Under the provisions of this law the number of state medical board meetings is cut down to two a year; and the revocation of licenses for criminal and persistent inebriety; the practice of criminal abortion, either principal or abettor; for the conviction of crime involving moral turpitude; for the public advertising of special ability to treat or cure chronic or incurable diseases; for representation to a board of any license, certificate or diploma, illegally or fraudulently obtained, or the practice of fraud or deception in passing an examination, is authorized. The board is also authorized to make agreements of reciprocity with the examining boards of other states.

The Boston floating hospital management reports that in response to appeals made through the Boston papers for contributions, a fund has begun to grow mostly by small sums. The contributions range from 25 cents to $5, and have come from all parts of New England. The money is needed.

There were on the ship yesterday 120 permanent and 92 day patients, and 93 mothers, who were accompanied by 17 well children. The day was given by Mrs. M. S. Jones. Last night was the first Hotel Pemberton guests' night.

Contributions to the floating hospital should be sent to George C. Lee, Jr., Lee, Higginson & Co., 44 State St.

The Queen Alexandra Sanatorium (under Her Majesty's Patronage), which is to be opened early next autumn, is destined to rank high in the list of the *National Sanatoria* of cosmopolitan Davos. But though national it will be unique in welcoming patients from all parts of the world, and not only from the Empire but from the States, as it was founded for the benefit of all English-speaking nationalities, the only qualifications needed being evidence of medical suitability and of inability to meet the heavier cost of treatment at Hotels or Private Institutions. The following notice which appeared in the British Medical and other Journals, has been forwarded to us by the joint Honorary Secretary, Dr. William Ewart, as of special

interest to the American public and profession:

THE QUEEN ALEXANDRA SANATORIUM, DAVOS.

The prospective opening of the Queen Alexandra Sanatorium at Davos for the reception of patients early in this autumn was announced from the chair at the sixth annual meeting of the Council, held at 11 Chandos street, Cavendish Square, W., on July 16th, by the President, the Lord Balfour of Burleigh, K.T., P.C., who has laboured so long and successfully in the difficult task of raising funds. A splendid donation of £25,000 lately received from a munificent sympathizer, who desires that his name shall not be published, not only supplies the amount required to complete the work and to open a sanatorium free from debt, but provides means for its scientific equipment and for future extensions. It should be mentioned that Lord Strathcona, with his well-known zeal in the promotion of all charitable and useful works, not long ago gave a donation of £2,000 for the purposes of the sanatorium. For the present the sanatorium will accommodate 54 patients, all in single rooms. But the public rooms are designed for a full complement of 120 patients. The Davos Invalids' Home, the original foundation of the late Mrs. Lord, which for so many years was the only representative of our national charity in Davos, has now ended its task and fulfilled the purpose for which it was initiated —that of developing into a National Sanatorium. The Home had been granted Her Gracious Majesty's patronage as far back at 1899.

BOOK REVIEWS.

A TEXT-BOOK OF SURGICAL DIAGNOSIS.—For Students and Practitioners. By Edward Martin, M. D., Professor of Clinical Surgery, University of Pennsylvania, Philadelphia. Very handsome octavo of 764 pages, with 445 engravings, largely original, and 18 full-page plates. Cloth, $5.50, *net*; Lea & Febiger, Philadelphia and New York.

This new work is designed not only to give the general practitioner the principles of early diagnosis of surgical diseases and conditions, but also as a text book for students and surgeons. The subjects are arranged well for ready reference and the book is exceedingly well illustrated. It discusses all the methods for early diagnosis of surgical diseases and would be a most valuable addition to every physician's library.

A TEXT-BOOK ON THE PRINCIPLES AND PRACTICE OF SURGERY.—By George Emerson Brewer, M. D., Professor of Clinical Surgery in the College of Physicians and Surgeons, New York. Octavo, 908 pages, 415 engravings and 14 full-page plates, Cloth, $5.00, *net;* leather, $6.00, *net.* Lea & Febiger, Philadelphia and New York, 1909.

The second edition of this work has been carefully revised and rewritten and brought up-to-date in every way. This book is exceedingly well written, the author having happily combined brevity with completeness. The treatment of surgical conditions is made explicit. It is a book that should recommend itself at once to the physician who wants definite information in a convenient and readable form.

A TEXT-BOOK OF PRACTICAL THERAPEUTICS.—With especial reference to the application of remedial measures to disease and their employment upon a rational basis. By Hobart Amory Hare, M. D., Professor of Therapeutics in the Jefferson Medical College of Philadelphia. Thirteenth edition, thoroughly revised. Octavo, 951 pages, with 122 engravings, and 4 full-page colored plates. Cloth, $4.00, *net;* leather $5.00, *net;* half morocco, $5.50 *net.* Lea & Febiger, Philadelphia and New York, 1909.

Hare's Therapeutics has been too long and favorably known to need an introduction.

The thirteenth edition just published brings this book abreast of the times. It first discusses the general principles of therapeutics, then drugs, after which a section is given to the discussion of non-medicinal remedial measures, and finally the more important diseases with their treatment. It is a most useful book for ready reference.

A TREATISE ON THE PRINCIPLES AND PRACTICE OF MEDICINE.—By Arthur R. Edwards, M. D., Professor of the Principles and Practice of Medicine and Clinical Medicine in the Northwestern University Medical School, Chicago. New (second) edition, thoroughly revised. Octavo, 1246 pages, with 100 engravings and 21 full-page plates in colors and monochrome. Cloth $5.50, *net;* leather, $6.50, *net.* Lea & Febiger, Philadelphia and New York, 1909.

The author has succeeded admirably in producing a one volume Practice of Medicine that meets the needs of the busy practitioner. It is brief and to the point and also readable. One attractive feature of the book is the concise

discussion of treatment: this cannot fail to be appreciated by the general practitioner. Altogether the book must commend itself to physicians. The short time which has elapsed between the first and second editions is a good testimonial of the hearty way in which it has been received.

MINOR AND OPERATIVE SURGERY, INCLUDING BANDAGING.—By Henry R. Wharton, M. D., Professor of Clinical Surgery in the Woman's Medical College, Philadelphia. New (seventh) edition, enlarged and thoroughly revised. 12mo, 674 pages, with 555 illustrations. Cloth, $3.00, net. Lea & Febiger, Philadelphia and New York, 1909.

This little book is a compendium upon the application of bandages and fixed dressings, it also discusses the application of minor surgical technique. There are also chapters on fractures, dislocations, ligation of arteries, amputations and excisions. The seventh edition, just published, has included the latest ideas in surgery.

This book is a most valuable auxiliary to a regular text book on surgery, giving in detail much that is barely mentioned in the larger books. It should be in every physician's library.

INTERNATIONAL CLINICS, A QUARTERLY OF ILLUSTRATED CLINICAL LECTURES AND ESPECIALLY PREPARED ORIGINAL ARTICLES ON TREATMENT, MEDICINE, SURGERY, NECROLOGY, PEDIATRICS, OBSTETRICS, GYNECOLOGY, ORTHOPEDICS, PATHOLOGY, DERMATOLOGY, OPHTHALMOLOGY, OTOLOGY, RHINOLOGY, LARYNGOLOGY, HYGIENE, AND OTHER TOPICS OF INTEREST TO STUDENTS AND PRACTITIONERS.—By Leading Members of the Medical Profession throughout the world. Edited by W. T. Longcope, M. D., Philadelphia, U.S.A., with the collaboration of Wm. Osler, M. D., John H. Musser, M. D., A. McPhedran, M. D., Frank Billings, M. D., Chas. H. Mayo, M. D., Thos. H. Rotch, M. D., John G. Clark, M. D., James J. Walsh, M. D., J. W. Ballantyne, M. D., John Harold, M. D., Richard Kretz, M. D. With regular correspondents in Montreal, London, Paris, Berlin, Vienna, Liepsic, Brussels, and Carlsbad. Volume III. Nineteenth Series, 1909. Philadelphia and London; J. P. Lippincott Company.

Volume III of the nineteenth series of International Clinics is just published. This volume has a very attractive list of contributors and has very interesting sections in medicine, surgery, gynecology and radiography. These clinics give the latest and best ideas in the various departments of medicine and surgery.

THE PRINCIPLES OF BACTERIOLOGY.—A Practical Manual for Students and Physicians. By A. C. Abbott, M. D., Professor of Hygiene, University of Pennsylvania. New (8th) edition, thoroughly revised. 12mo, 631 pages, with 100 illustrations, 26 in colors. Cloth, $2.75, *net*. Lea & Febiger, Philadelphia and New York, 1909.

That Doctor Abbott succeeded in writing a book on Bacteriology which met the needs of both practitioner and student alike is amply attested by the tremendous sale which the book has had. Its frequent revisions have kept it strictly up-to-date. A work on the subject which is four or five years old is practically obsolete. Dr. Abbott and his publishers do not intend to let this excellent work ever fall into that condition.

Parke Davis and Company have just issued a very useful volume entitled a "Manual of Therapeutics."

It is a well-printed volume, handsomely bound in flexible leather, of about 650 pages. It is really an encyclopedia of useful information which the physician is bound to value, considering the convenient form in which it is presented.

The bulk of the book is devoted to Materia Medica. The authors have striven to place before the hard-working practitioner, in the most convenient form, a means of perceiving at a glance every available form of medication. By referring to the chapter on Therapeutic suggestions and to the larger chapter on Materia Medica, he can see quickly just what drugs, or preparations of a given drug, are available.

The work is a valuable one and one which reflects great credit on the firm. It is free for distribution among physicians requesting it.

A BOOSTING CLUB.

To the Editor:—Why not a "Booster Club" or "Praise Your Brother Club" in the American Medical Association, with no dues or other requirements except that each member pledge himself never to speak unkindly or in criticism of a brother physician to the laity except that physician be also present. Let us renew our vows and wear buttons to show that we mean to keep them.

If such a condition could be brought about we would be held in much greater esteem by our patients and neighbors. Whenever a phy-

sician is condemned, maligned or criticized by another physician, the ill-will engendered in the minds of the laity is not against the one physician but the class—individuals are forgotten and the profession is remembered as a whole. If I tell everyone I meet that Dr. Pill is a rank physician; knows nothing of medicine and will stoop to any mean practice, the laity soon forget that Dr. Pill is a "poor doctor" and retain the impression that we are all "poor doctors" ready to stoop to anything.

Let's stop it; raise the standard. Can we get together at St. Louis and organize a club?

Yours for "no knocking,"

W. T. Wootton, M. D., Hot Springs, Ark.

The above from the *Journal A. M. A.* of August 7th, 1909. Will you agitate such a scheme to the end that we may create a better general impression upon the laity, restore confidence in our profession and take away the foundation for so many pathies, religeo-cures, etc.?

Very sincerely yours,

W. T. Wootton.

THE NINETY-SIXTH ANNUAL MEETING OF THE VERMONT STATE MEDICAL SOCIETY, AT WHITE RIVER JUNCTION, VT., OCTOBER 14-15, 1909.

OFFICERS.

President.....C. W. Peck, Brandon.
Vice-President.....S. W. Hammond, Rutland.
Secretary.....C. H. Beecher, Burlington.
Treasurer.....B. H. Stone, Burlington.
Auditor.....J. H. Blodgett, Bellows Falls.

COMMITTEES.

EXECUTIVE.

C. W. Peck, A. I. Miller, C. H. Beecher.

PUBLICATION.

C. H. Beecher, A. O. Morton, F. E. Farmer.

LEGISLATION.

G. H. Gorham, L. Allen, A. B. Bisbee.

NECROLOGY.

J. B. Wheeler, B. D. Longe, L. M. Kelly.

MEDICAL EDUCATION.

W. N. Bryant, term expires 1911.
D. D. Grout, term expires 1910.
S. S. Eddy, term expires 1909.

ANNIVERSARY CHAIRMAN.

F. S. Hutchinson, Enosburg Falls.

LOCAL COMMITTEE OF ARRANGEMENTS.

M. P. Stanley, G. N. Cobb, T. F. Gartland.

LADIES RECEPTION COMMITTEE.

Mrs. M. P. Stanley, Mrs. T. F. Gartland,
Mrs. D. S. Drake, Mrs. E. A. Barrows.

HOUSE OF DELEGATES.

OFFICERS.

President.....M. L. Chandler.
1st Vice-President.....H. H. Lee.
2nd Vice-President.....W. T. Slayton.
Secretary.....C. F. Dalton.

MEMBERS.

ADDISON COUNTY.

One year: H. Williamson. Two years: G. F. Edmunds. Alternate: R. W. Prentise.

BENNINGTON COUNTY.

One year: L. E. Hemenway. Two years:———

CALEDONIA COUNTY.

One year: H. H. Lee, H. A. Suitor. Two years: J. M. Allen. Alternates: W. J. Aldrich, E. H. Ross, A. C. McDowell.

CHITTENDEN COUNTY.

One year: H. C. Tinkham, C. F. Dalton, W. A. Lyman, D. Marvin. Two years: J. N. Jenne, L. C. Holcombe, F. A. Stoddard. Alternates: F. E. Clark, Lyman Allen, T. S. Brown, E. H. Buttles, J. B. Wheeler, M. C. Twitchell, F. K. Jackson.

FRANKLIN COUNTY.

One year: G. C. Berkeley, J. R. Patton. Two years: A. O. Morton, C. S. Scofield.

LAMOILLE COUNTY.

One year: W. T. Slayton. Two years: A. J. Valleau.

ORLEANS COUNTY.

One year: A. M. Butterfield, R. M. Wells.

RUTLAND COUNTY.

One year: C. S. Caverly, J. M. Hamilton. Alternates: C. W. Peck, B. D. Colby. Two years: M. R. Crain, C. E. Griffin, J. R. Eastwood, J. P. Newton. Alternates: Wm. Stickney, C. F. Ball, H. F. Martyn, J. L. Welch.

WASHINGTON COUNTY.

One year: O. G. Stickney, A. C. Bailey, M. L. Chandler. Alternates: J. P. Gifford, E. B. Watson, W. E. Lazelle. Two years: E. A. Colton, Wm. Lindsay. Alternates: A. T. Marshall, F. E. Steele.

WINDHAM COUNTY.

One year: A. L. Miner, H. L. Waterman, F. L. Osgood. Two years: Thos. Rice, G. J. Gale.

WINDSOR COUNTY.

One year: C. H. Hazen, T. F. Gartland, F. T. Kidder. Choose own alternates.

PROGRAM

THURSDAY MORNING 9.00 O'CLOCK.

1. Called to order by the President, C. W. Peck.
2. Prayer, Chaplain, Rev. J. A. Scheuerle.
3. Address of Welcome. Raymond Trainor.
4. Reading of Records by Secretary.
5. Report of Committee on Arrangements.
6. Reports of Officers, Committees and Delegates.
   - (a) Secretary, C. H. Beecher.
   - (b) Treasurer, B. H. Stone.
   - (c) Auditor, J. H. Blodgett.
   - (d) Executive Committee, C. W. Peck.
   - (e) Publication Committee, C. H. Beecher.
   - (f) Legislation Committee, G. H. Gorham.
   - (g) Medical Education Committee. W. N. Bryant.
   - (h) Necrology Committee, J. B. Wheeler.
   - (i) Delegates.
7. Introduction of Delegates from other Societies.
8. "Measles."

P. L. Dorey, Middlebury.

Outline: Etiology; differential diagnosis; complications; sequelae.

Discussion opened by A. M. Butterfield, Wm. Lindsay.

9. "Inflammation."

J. P. Gifford, Randolph.

Outline: Definition and phenomena, chemotaxis, phagocytosis, opsonins, varieties of inflammatory manifestations, adaptation of treatment.
Discussion opened by F. E. Clark C. W. Bartlett.

10. "Venereal Disease."

W. W. Townsend, Rutland.

Abstract:
The author reviews Venereal Disease as it exists in this State. He considers its relations to the contemplated or consummated marriage state, and makes an appeal for a more careful and scientific examination of patients suffering from acute or quiescent venereal disease. He believes this will afford a more certain diagnosis, and enable more intelligent treatment.
Discussion opened by J. Gibson, J. M. Allen.

THURSDAY AFTERNOON 2.00 O'CLOCK.

1. The Vice-President's Annual Address, "Sleep, Sleeplessness, and Hypnotics."

S. W. Hammond, Rutland.

Outline:
The physiology of normal sleep. The different types of insomnia. Discussion of all measures, medicinal and otherwise, used to promote sleep.
Discussion opened by J. N. Jenne, H. H. Lee.

2. "The Clinical Relationship of Ophthalmology to General Medicine and General Surgery."

J. H. Woodward, New York City.

Synopsis:
The scope of ophthalmology. The significance of changes in the visual apparatus as diagnostic signs of organic lesions in the cerebro-spinal system, in the circulatory system, and in the genito-urinary systems. A definition of "eye strain," and a consideration of its etiological and symptomatic relationship to functional diseases.
Discussion to be opened by M. L. Chandler, C. A. Cramton, M. C. Twitchell, and by invitation, E. H. Carleton, Hanover, N. H.

3. "Ileus, Mechanical and Dynamic."

Lyman Allen, Burlington.

Abstract:
Cause—If no mechanical obstruction, ileus is due to paralysis of peristalsis. Symptoms are abdominal pain, nausea or vomiting, distention, constipation and shock; and these symptoms are due to auto-intoxication or septicaemia and not to mere retention of fecal matter. Contents of bowel in ileus are more toxic than normal. Abdominal distention of itself is a most harmful condition. Differential diagnosis is made from early symptoms. Treatment—Laparotomy. Cathartics useless and harmful. Repeated gastric lavage and enemata helpful. Care of the mild forms of ileus following ordinary laparotomy.
Discussion opened by Wm. Stickney, H. C. Tinkham, and by invitation, P. Bartlett, Hanover, N. H.

4. "Some Recent Advances in Our Knowledge of the Blood."

R. C. Cabot, Boston, Mass.

Outline:
Morphological data. The internal secretions. The hormones. The antibodies.
Discussion opened by C. S. Caverly, F. K. Jackson.

REGULAR MEETING OF HOUSE OF DELEGATES AT 5.00 O'CLOCK AT GATES MEMORIAL LIBRARY.

THURSDAY EVENING 8.00 O'CLOCK.

1. Report of Secretary of House of Delegates.

2. The President's Annual Address, "Auto-intoxication."

C. W. Peck, Brandon.

Outline:
Its Causes, Prevention and Treatment.
Discussion opened by W. L. Havens, L. C. Holcombe, and by invitation G. D. Frost, Hanover, N. H.

THE ANNUAL BANQUET WILL BE HELD AT THE JUNCTION HOUSE, IMMEDIATELY AFTER THE EVENING SESSION.
F. S. HUTCHINSON, Anniversary Chairman.

FRIDAY MORNING 9.00 O'CLOCK.

1. Report of Secretary of House of Delegates.

2. "Paranoia"

W. L. Wasson, Waterbury.

Abstract:
Original meaning of term paranoia.
Definition of paranoia.
Avoidance of term paranoia in England.
Etiology—
- Arises on defective basis.
- Age of development.
- Primary characteristics of individual.
- Exciting causes.

Symptomalogy—
- Character of onset.
- Three stages in development.
- 1st stage of subjective analysis
- 2nd stage of persecutory delusions.
- 3rd stage of megalomania.

Special types.
- Erotic, religious, etc.

Content of delusions based on constitution of individual. Mental processes of the insane, the mental processes of the sane. Memory, consciousness, thought capacity well preserved. Conduct modified by delusions and hallucinations. Course prolonged and marked by absence of mental deterioration. Diagnosis based on characteristic symptoms. Prognosis unfavorable. Treatment.
Discussion opened by F. E. Farmer, W. J. Upton.

3. "Prostatic Obstruction; Indications for Operations with Description of a Method of Operating."

Parker Syms, New York City.

Abstract:
Prostatic Obstruction is a mechanical condition, but it results in a variety of pathological changes which must be studied and understood in order to properly undertake its treatment.
Cystoscopic examination is dangerous and unnecessary and should not be employed.
Topical treatment of the bladder by means of the catheter is to be depreciated. It is never more than palliative and operation is safer.
Operation however should be resorted to only when there are definite reasons for its employment.
Indications for operations.
Prostatectomy is the safest and only satisfactory method of treatment.
Perineal Prostatectomy is the method of choice.
Description of the author's method of operating.
Remarks on results following operation.
Discussion opened by E. M. Pond, J. B. Wheeler, and by invitation by J. M. Gile, Hanover, N. H.

4. "Some Observations on Laboratory Diagnosis."

E. A. Colton, Montpelier.

Abstract:
Introduction—Showing rapid increase in laboratory methods following establishment of the Cell Theory in 1838. The present availability of laboratories. Is there a danger?
Diphtheria—Diagnosed long before Klebs-Loeffler Bacillus was known by clinical observation. Positive cultures valuable. Negative cultures valuable only after repeated cultures continue negative.
Typhoid—Widal test the only really available Laboratory test: never found early, often only very late. History, symptomatology and physical examination of case imperative.
Urinalysis—Importance formerly attached to albumin and casts, urea and cells. Conclusions of recent observers based on hospital records of cases and autopsies discount these findings. The importance of centrifuge in showing casts. Urea determination unsatisfactory. Importance of day and night urine and specific gravity, and the patient's condition.
Tuberculosis—The isolation of the tubercle bacillus marks an epoch. Too great importance attached to sputum examination. Positive sputum equals tuberculosis. Negative sputum does not necessarily mean no tuberculosis. Pathology explains preceding. Difficulties of diagnosing incipient tuberculosis. To send sputum to laboratory easy but unsafe if

considered other than as confirmatory of clinical methods. Early diagnosis important. Will only follow careful application of physical diagnostic methods. Tuberculin test attracting attention. Discussed here because it is a "short cut" method of diagnosis. Conjunctival test largely abandoned. Skin tests are no substitutes for clinical work.

Conclusion—Not an arraignment of the laboratory, but a caution against a present day tendency of practitioners. Physicians can no longer hide behind the laboratory.

Discussion opened by L. H. Ross, D. Marvin, and by invitation H. N. Kingsford, Hanover, N. H.

5. "Hydrophobia, and the Pasteur Method of Immunization."

W. H. Lane, Brattleboro.

Abstract:

Definition and brief history.

Etiology—Influence of age, sex and season, nature, resistance, distribution and penetration of virus.

Incubation.

Pathology—Post-mortem and microscopic diagnosis.

Symptoms and duration.

Treatment—Palliative, preventive, and Pasteur method of immunization.

Discussion opened by J. H. Blodgett, C. F. Ball.

ADJOURNMENT.

ENTERTAINMENT.

THURSDAY AFTERNOON.

Reception for the ladies at Gates Memorial Library at 3 o'clock.

FRIDAY MORNING.

Automobile parties for the ladies, visiting places of interest in the vicinity.—Hanover including Dartmouth College, Woodstock and Quechee Gulf, and Corbin's Park.

FRIDAY AFTERNOON.

The Faculty of the Dartmouth Medical School extends a cordial invitation to members, ladies and guests to visit Dartmouth College. Guides will be at hand to point out places of interest.

ANNOUNCEMENTS.

PAPERS.

Papers are limited to twenty minutes, and discussion of them by any member to five minutes.

Papers must be typewritten and handed to the Secretary *immediately* after reading, for publication.

EXHIBITS.

The customary exhibit of Drugs, Foods, Medical Books, and Surgical Instruments, will be displayed in the building immediately adjoining Foresters' Hall where the regular sessions are held.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

INFECTION OF TUBERCULOSIS.

C. T. WILLIAMS, (in *British Medical Journal*, Abstract from *Journal A. M. A.*, September 18, 1909), The various sources of infection in pulmonary tuberculosis and the extent of which they are elements in causation or spread of the disease are the topics discussed by Williams. Husband and wife infection, he says, is established beyond all doubt. Infection through the air passages by inhalation was, until recently, generally accepted as the common method of infection of human beings, but as to the precise material of infection authorities differed. He holds that though it is improbable that inhalation is the principal means of lung infection, there is every likelihood of some infection taking place through the upper air passages, and that the bacilli enter the lymphatics of the mouth and infect the lymph glands of this region and the tonsils, which are often the seat of tubercle. The frequent occurrence of strumous submaxillary and cervical glands may be due to this cause.

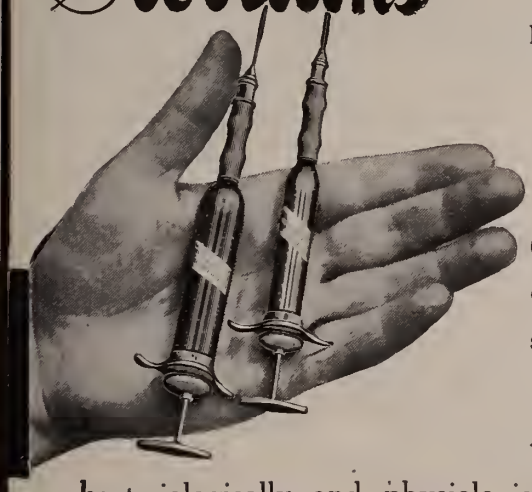
On the other hand, the possibility, and, indeed, probability, of the lungs and lymph system being infected through the intestines is proved without doubt. Infection through the skin and mucous membranes by wounds is not a common method of infection, but sundry cases are on record which prove its possibility and indicate the undoubted danger from that source. Hospital infection, or the infection of the resident staffs of hospitals from consumptive patients, he holds, occurs only with great rarity. However, there is something behind all these factors, in the individual strength of constitution, on which mainly depends the question of infection or non-infection. The healthy individual can defy the tubercle bacillus, the same person depressed by want, impure air, or recovering from acute disease cannot, and falls a victim to the attack. But under improved conditions his constitution may rally, and after a long struggle overcome and expel the invader. Finally, all infection from consumptive patients can be avoided if the well-recognized precautionary measures are adopted and carried out thoroughly.

TUBERCULIN TREATMENT AMONG DISPENSARY PATIENTS.

L. HAMMAN AND S. WOLMAN. Baltimore, (Abstract from *Journal A. M. A.*, September 18, 1909). The total number of patients who received the tuberculin treatment is 112. But Hamman and Wolman report only those who were under treatment at least 90 days—a group of 71 cases. However, only 57 of the cases lend themselves to this classification, the remaining 14 being patients in whom the diagnosis of pulmonary tuberculosis can not be made with assurance, although they present very suggestive signs and symptoms. In these 14 probable cases the patients were treated in every way as if they were positively tuberculous, and they all improved as regards these symptoms, and in a fair number, the suggestive physical signs, too, vanished. The 57 cases comprise 13 incipients, 16 moderately advanced, 28 cases far advanced, of which 4 incipients, 6 moderately advanced, 25 far advanced, a total of 35, show tubercle bacilli in the sputum.

Of the 57 patients, 10 were apparently cured, in 16 the disease was arrested, 12 were improved, 18 were progressive, 1 died (a far-advanced case). Of the 18 progressive cases, 4 patients improved as regards symptoms, 10 were unchanged as regards symptoms, and only 4 were worse as regards symptoms (all 4 far-advanced cases). Of the 13 incipients, only 1 was progressive; of the 16 moderately advanced, 2 were progressive; of the 28 far advanced, 16 were progressive (1 died). The average gain in weight for the entire group is 6½ pounds. The maximum gain in weight is 41 pounds. Among those who lost weight are 3 apparently cured individuals. The average maximum dose of tuberculin per class, for the entire group was 0.005 gm. The early cases and those patients who do well take the largest dose. The largest dose administered was 1.0 gm. In the far-advanced and progressive cases, the patients reach the limit of tolerance early. That is, they soon attain a dose beyond which it is impossible to force them without unpleasant consequences. The duration of treatment is based rather on the progress of the case than on the condition at the beginning of treatment.

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EMPLOYMENT OF PATIENTS WITH ARRESTED TUBERCULOSIS.

A. M. Forster, M. D., (Abstract from *Journal A. M. A.*, September 18, 1909), Forster brings out the following points: Agriculture presents the best form of exercise for tuberculous patients from a therapeutic as well as an economic standpoint. The farm is not only the best possible means for the after-care of consumptives, but also, as it develops, will be the best agent for encouraging the much-wished-for movement toward the land. These colonies, if properly located and managed, can be made self-supporting. They present the only way for handling tuberculous families. They should be located in close conjunction with a sanatorium and a hospital for advanced cases, and should also be near large centers of population. No work should be undertaken without endeavoring to keep the entire program in sight. Forster does not claim that the farm colony will solve the tuberculosis problem, but that it is essential to have it in cooperation with all the other necessary forces.

TUBERCULOSIS NOMENCLATURE AND CLASSIFICATION.

The *Journal* A. M. A., September 25, contains the report of the committee consisting of Drs. H. L. Barnes, Lawrason Brown, H. S. Goodall, Estes Nichols and L. Rosenberg, in regard to the nomenclature and classification of tuberculosis, which has been approved by the American Sanatorium Association. It includes the classification adopted by the National Association for the Study and Prevention of Tuberculosis. A uniform method of examination in recommended. The patient is stripped to the waist and rales are considered absent, only when they are absent after he exhales, coughs at the end of exhalation and then takes a full, deep, fairly quick breath through the mouth. A modified form of Turban's scheme of reporting certain details about patients on admission and discharge is given in table form and recommended to be used by all sanatoria. Other tables for recording the extent of physical signs are given and recommended, which it is deemed will avoid several criticisms made on the classification of the national association. The results of sputum examination recorded in most reports is also unsatisfactory, and a scheme of reporting is given in another table. The committee recommend that the temperature be taken by the mouth with a reliable thermometer. It should be held in the mouth for at least five minutes, and from five to ten minutes to detect the slightest rises in temperature. When the rectal temperature has been taken this fact should be noted. The committee do not all agree as regards the times for taking temperature, and what is the normal temperature is not entirely settled, but more is known about the oral than about the rectal temperature as regards this point. Patients vary somewhat in their normal rate but it is unwise to consider any patient "arrested" or "apparently cured" when temperature for three or more days averages over 99 F. Absorption from an old focus may cause a rise when the disease is quiescent, but no one can separate such a condition from a slow advance of the disease, imperceptible by our present methods. A rise for a single day to 99.50 or even higher if there is some cause, as coryza or tonsillitis, should be disregarded in making up the average on the charts. It would be wise to insist on a two-hour temperature record were it possible but in any case the temperature should be taken whenever possible after rest for at least one hour, *i. e.* after complete relaxation mental and physical in a sitting or reclining posture. With these and other more or less important specifications the committee suggests the following classifications to be used on admission and discharge and for ultimate records.

1. ON ADMISSION.

These definitions indicate the furthest extent of the disease and the greatest severity of symptoms that a patient can present and still belong to the stage defined. All patients beyond the incipient stage fall under the moderately advanced stage unless the physical signs and symptoms exceed those of the moderately advanced stage, when they should be classified as far advanced.

Incipient.—Slight or no constitutional symptoms (including particularly gastric or intestinal disturbance or rapid loss of weight). Slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours.

Expectoration usually small in amount or absent. Tubercle bacilli may be present or absent.

Slight infiltration to the apex of one or both lungs or a small part of one lobe.

No tuberculous complications.

Moderately Advanced.—No marked impairment of function, either local or constitutional.

Localized consolidation moderate in extent with little or no evidence of cavity formation; or infiltration more extensive than under incipient.

No serious complications.

Far Advanced.—Marked impairment of function, local and constitutional.

Marked consolidation of an entire lobe.

Or disseminated areas of beginning cavity formation.

Or serious complications.

Miliary Tuberculosis.

2. ON DISCHARGE.

Apparently Cured.—All constitutional symptoms and expectoration with bacilli, absent for a period of three months; the physical signs to be those of a healed lesion.

Arrested.—Absence of all constitutional symptoms; expectoration and bacilli may or may not be present; physical signs stationary or retrogressive; the forgoing conditions to have existed for at least two months. (Intended to cover all cases including those where the patient leaves contrary to advice after a stay of a few weeks, active symptoms having disappeared shortly after admission.)

Improved.—Constitutional symptoms lessened or entirely absent; physical signs improved or unchanged; cough and expectoration with bacilli usually present.

Unimproved or Progressive.—All essential symptoms and signs unabated or increased.

Died.

3. ULTIMATE RESULTS.

Cured.—All constitutional symptoms and expectoration with bacilli absent for a period of two years under ordinary conditions of life.

Well.—Patients who fulfill all the conditions required under "cured" but about whose sputum no definite information can be obtained.

Arrested.—See above.

Improved.—See above.

Progressive.—See above.

Dead.

THERAPEUTIC NOTES.

THE LOCAL TREATMENT OF ACNE.

GAUTHER is credited by the *Journal de médicine de Paris* for August 28, 1909, with the following contribution to the subject. It is remarked that there are two drugs which give the best results in the local treatment of acne—namely, resorcin and sulphur. Resorcin sometimes proves irritating, especially when exhibited in the form of ointment. It is best therefore to employ it in aqueous solution, as follows:

℞ Resorcin ....gr. xv;
Distilled water .....ʒiii.
M.

Sulphur is frequently used in the form of ointment, but it is an objectionable form, as the greasy mass only augments the abnormal condition of the skin. A more agreeable method is to prescribe it in the following lotion:

℞ Precipitated sulphur, finely sieved .....ʒiss;
Purified talcum, finely sieved .....ʒss;
Refined glycerin ....ʒiss;
Rose water ....ʒiv;
Tincture of soap bark .....ʒiiss.
M.

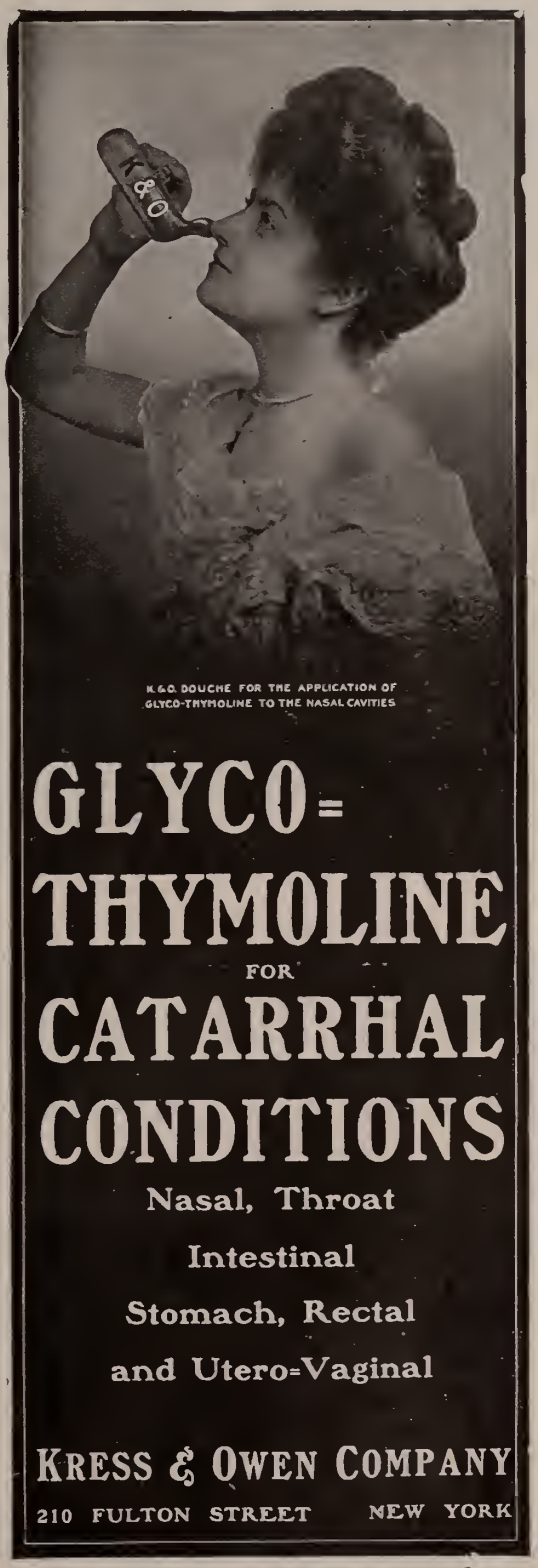
Sublimed sulphur should never be used in lotions intended for the treatment of acne, as it is very irritating to the skin. In preparing the lotion the apothecary should be instructed to incorporate the dry ingredients intimately in a mortar, adding the glycerin, and then the rose water, little by little. The tincture of soap bark, which partially emulsifies the mixture, should be added lastly, a few drops at a time, the mixture being well stirred meanwhile.

The lotion is applied at night, after the face has been bathed in water as hot as can be borne. Wash off in the morning with hot water.—*New York Medical Journal.*

NEW TREATMENT FOR HEMORRHOIDS.

The method recommended by PROFESSOR J. BOAS (*Münch Med. Wochensch.*, No. 27, 1909) consists in causing prolapse of the hemorrhoidal nodules by continued pressure in connection with the use of Bier's suction cup. Swelling of the nodules is thus produced with edema of the anal ring, so that they become fixed in the anal opening and the circulation is slowly shut off. The edema, after increasing during the first three or four days, then gradually subsides, and at the end of about eight days, the nodules have usually diminished to one-half their former size, and in eight to fourteen days are no larger than a lentil. Suppositories are rarely necessary and applications of aluminum acetate solution should suffice. Absolute rest is necessary during the first three or four days. Under careful medical supervision this procedure can be carried out at the patient's home.—*New York Med. Journal.*

"MILK DIET" ANEMIA.—While it is generally conceded that milk is a complete aliment in the sense that it represents the three essential food elements, i. e., proteids, carbohydrates and fats (together with inorganic salts and water), it is equally well known that this otherwise highly nutritive fluid is exceedingly poor in iron. It is not to be wondered at, therefore, that after a prolonged milk diet, some degree of Anemia is very likely to supervene. This is especially true after a long-continued Typhoid, as well as in cases of chronic nephritic disease, in



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Toronto, Ont., Can.
Winnipeg, Manitoba.
London, Eng.

which milk is the principal or exclusive food. The occurrence of such a "milk diet" Anemia seems to be, in many instances, responsible for a tardy and protracted convalescence. Such iron-poverty can be prevented by administering Pepto-Mangan (Gude) both during and after the milk diet period, thus supplying the essential iron in the most easily tolerable, non-irritant and promptly assimilable form. This palatable organic, ferruginous compound is entirely free from disturbing effect upon the digestion, and does not irritate, or constipate, nor does it in any way interfere with such other treatment as the physician may see fit to adopt.

An Important Little Work on Biological Therapeutics.—In view of the near approach of the season when biological therapeutics will claim a considerable share of the attention of practitioners, reference may pertinently be made at this time to a unique and valuable contribution to the subject which has recently issued from the press of Messrs. Parke, Davis & Co. The publication consists of 52 pages, exclusive of the cover, and appears in brochure form. It is handsomely printed on white enamel paper of first quality and bears in colors a profusion of halftone illustrations. The title is "Serums and Vaccines." A brief chapter on the origin and development of biological therapeutics, with an interjected hint as to what the opsonins may have in store for us, constitutes the introduction. Then follow chapters on serums—antidiphtheric, antitetanic, antistreptococcic, antigonococcic, antitubercle and antivenomous; on tuberculins; on vaccines, including the new bacterial vaccines which are exacting so much attention from the medical world; on organo-therapy, its development, and some of the important products that are associated with it—"a tabulation," in the language of the brochure itself, "of such creations of biologic pharmacy as are really utilizable in medicine." There are striking pictures of the Company's home laboratories at Detroit, with numerous interior views; the research laboratory; the operating house and biological stables at Parkedale Farm (where the animals are cared for), with accompanying landscapes in nature's colors.

This little book, "Serums and Vaccines," is distinctly "worth while." If you haven't seen a copy, drop Parke, Davis & Co., a postal card at their home offices in Detroit, mentioning this journal, and get one. It is a safe guess that any physician who receives the brochure will read it admiringly and with interest, filing it away thereafter for future reference.

Going Some.—The attention of our readers is called to the advertisement of The Abbott Alkaloidal Co. on page vi. The idea is particularly appropriate at this time and will do much to emphasize the fact that Dr. Abbott and his products are right "up to the minute." We suggest that you send for a copy of the "Digest of Positive Therapeutics" if you have not already received one. This is a three hundred page book of practical pointers and will be sent free on request if this journal is mentioned.

There exist a number of cutaneous disorders which, in the main, are due to a general bad state of the tissues. It is in these that a general upbuilding process must be inaugurated in order to heal and improve the local cutaneous disturbance. It was formerly the custom to order cod liver oil with good results. Today, it is equally advantageous to give cord. ext. ol. morrhuae comp. (Hagee), which acts not only as well but better, and is devoid of grease.—*Am. Jour. Dermatology.*

Afterwards.—During the acute stages of any serious illness, such as Typhoid, Pneumonia, La Grippe, etc., the attention of the physician is, of course, centered upon the ways and means of conducting the patient through the stress and storm of the disease, into the peaceful harbor of convalescence. In many instances, when this point is reached, the physician is inclined to relax his efforts and, perhaps, fails to appreciate the extent of the general devitalization that has followed the severe systemic infection from which the patient has just recovered. Unless the reparative and restorative forces of Nature are fortified and stimulated, a slow and tardy convalescence is apt to supervene. The devitalizing influence of the infectious diseases is exerted principally upon the blood itself, the vital tissue of the organism, and an easily tolerable, readily absorbable and promptly efficient hematinic is therefore always in order. Pepto-Mangan (Gude) is peculiarly adapted to the needs of the convalescent invalid, because, being palatable and non-irritant, it does not impair the appetite or disturb the digestion. Its freedom from constipating effect is another distinct point in its favor.

THE CURETTE.—With many physicians the first thought in uterine bleeding is the curette. The hemorrhage is frequently due to lack of tonicity of the blood vessels and muscular tissues of the uterine walls and to curette in these cases is unnecessary and frequently dangerous. The value of viburnum as presented by Hayden's Viburnum Compound in these cases has been conclusively proven by years of clinical experience. It imparts tone to the relaxed uterine blood vessels and walls and in many cases makes currettment with its attending dangers of infection and perforation unnecessary.

MEDICAL GYNECOLOGY.—The rapid rush for the knife and its indiscriminate use in many gynecological cases where local or internal treatment should have been first considered, is causing the pendulum to swing in the direction of conservative gynecology. Uterine bleeding due to relaxation of the blood vessels and the uterine muscular walls can be relieved by promoting tone to these parts through the administration of Hayden's Viburnum Compound, thus making curettment with its attending dangers unnecessary. The same treatment is appropriate and can be used to advantage in uterine congestion with relaxation of the round ligament and other supportive structure. H. V. C. normalizes pelvic circulation and imparts tone to the uterus and its adnexa.

WANTED—TRAINED NURSES FOR THE MIDDLE CLASSES.—In addressing the graduates of a hospital training school a physician recently departed a little from the usual line of eulogistic remarks about the beneficent and important functions of the trained nurse, and offered some suggestions which are worthy of consideration. The fees of the trained nurse, he said, have been pretty solidly established at a figure that, while within the reach of the well-to-do, is so high as to be almost prohibitive to the great middle class. The very rich can take care of themselves; the very poor are well provided for through various organizations; but the great class of persons whose incomes are not much more than sufficient for their necessary expenses in the style of life which they have to maintain, can not bear, for any length of time at least, the expense of a trained hospital nurse. In such cases the attending physician often has to forego his fee in order that proper nursing may be had.—*Mercks Archives.*

DIAGNOSIS OF PNEUMONIA IN BABIES.—Children of three or four years when taken suddenly ill, showing fever, should always have their lungs examined, says Variot (*Journal des Practiciens*, February 20, 1909). There may be a few sub-crepitant rales at the base of the lung. No physical signs may be found; the fever falls by crisis, after five days. Then we know it has been a pneumococcic infection. Under the age of two years this is severe and much to be feared; between two years and six the danger is slight (mortality about 5 per cent.). Two children developed pneumonia; their home was visited by the grandfather who contracted the same disease. He died, and the children recovered.—*Medical Times.*

TREATMENT OF COMMON WARTS BY LOCAL INJECTION OF TINCTURE OF THUJA.

J. A. SICARD AND P. LARNE (*La Clin. Infant.*, November, 1908, No. 21, p. 670) state that this method gives constant results. The patient is given a hot bath locally, sufficiently prolonged to soften the warty regions; then with antiseptic precautions, by means of a Pravaz syringe with a fine short needle, a few drops of the tincture are injected below the papillary layer of each wart. During the following days the warty mass becomes dark brown, withers and falls off—small ones in about a week, while very large ones require repeated injections from two to six times at five or six days' interval. After this operation, which is almost painless, or may be made so by previous injections of coca-stovain, a dry dressing is applied.



REMOVAL OF POWDER STAINS.

Dr. A. Clement Shute, of Pottstown, Pa., writes that antithermoline and ivory soap will remove powder stains. Shave the soap upon the clay dressing, then rub with spatula till all is a consistent paste, using the two substances in about equal quantities. Apply to powder-stained skin for from 6 to 18 hours. He says that it has never failed him, and asks the brethren to try it.

A FATAL CASE OF SEASICKNESS.—Deaths due to seasickness are extremely rare, but an inquest was held last week at Brighton on the body of a lady who was found to have died from exhaustion following on seasickness and extreme prostration during a trip on a "pleasure" steamer.—*Medical Review of Reviews.*

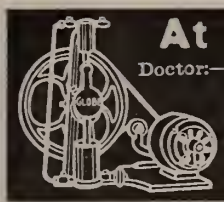
IMMATURE ATROPHIC INFANTS.

A. B. Spalding, San Francisco, (*Journal A. M. A.*, September 25), describes the method of treatment suitable for immature and atrophic infants. He says that too little attention is given to pregnancy cases before term and that much could be done at times to improve the chances of the child during the long period of intrauterine life. In judging immaturity of the new-born infant, weight is of more importance than length of pregnancy, and an infant weighing less than four and a half pounds at birth may be regarded as immature. An atrophic infant, though normal at birth, tends gradually toward the type of the immature. The thickness of the intestinal wall is diminished and there is evidence that certain needed glandular structures are deficient in function. It seems probable from recent investigations that there are, in all vertebrates, a number of so-called hormones whose function it is to stimulate or activate the various digestive ferments. They are undeveloped at birth and are functionally inactive in atrophic infants. Spalding is inclined to think that the failure of development is largely due to food intoxication caused by improper feeding—particularly the too early resort to artificial feeding or to too high percentages of butter fat. While a great deal of good has been accomplished by the percentage method he thinks that it has practically caused an overfeeding of babies and, while it is of greater value to feed babies according to the caloric value of food, he thinks neither system gives us a perfect method. He describes his own method of bottle feeding which has been successful in cases of delicate infants. Each immature or atrophic infant is fed according to its power of digestion as expressed clinically and for the first few days little attention is paid to the percentages or the caloric value of the food. Body warmth must be kept up and the bowels kept clear, usually by calomel. The immature babies are started with sugar solution (5 per cent.) or with salt solution (0.5 per cent.), and the atrophic babies with whey in order to ascertain the amount of liquid retained. Gradually the sugar solution is replaced with whey and the whey with top milk, whole milk, or fat-free milk mixtures according to the behavior of the child. Barley water is not added until the food contains from 20 to 30 per cent. of milk, unless the sugars fail to agree. The quantity of food is increased to meet the desires of the child and its ability to retain it. The relations between the weight chart, the feeding chart, and the clinical chart, are constantly studied and at intervals the percentage and caloric values of the food and the energy quotient and proteid ratio are estimated to prevent over or under feeding. He describes his feeding chart in detail. The weight chart urges always for more food but the clinical chart holds it in check. As a rule it seems to Spalding that these infants do best on a ratio of fat to protein, not more than two to one. The fat is always reduced with the first signs of indigestion. He has found it necessary sometimes to give as much as 250 calories per kilo for several weeks without signs of over feeding except when the fat calories ran high.

ADENOIDS IN ADULTS.

O. Orendorff, Canon City, Colo., (*Journal A. M. A.*, September 25), says that we are liable to fail to recognize adenoids when they occur in a well-developed healthy adult, of age anywhere up to 50. The following is the usual history: There was catarrh in childhood with symptoms of nasal obstruction, perhaps following an attack of scarlet fever with prolonged recovery. During adolescence the symptoms gradually lessened but left symptoms of chronic catarrh of which the patient still complains. Inspection shows the usual highly arched palate with the "adenoid fringe" of its remnants, and the fauces or pharynx covered with a slimy, sticky mucus. The lingual papillæ are enlarged and there are nodules on the posterior walls "granular pharyngitis." In his experience, Orendorff says he has never failed to find this nodular condition high up on the posterior wall, in patients over 15 years of age. The tonsils are usually sclerotic and the examining finger or mirror shows the disease to be more fibrous than in children with less of the fish-worm character, but invariably more voluminous than would at first appear. These patients are generally treated for catarrh and what may be called "office suggestion" until they get tired of it. In average practice there should be four or five well defined cases met with in a year. He reports and illustrates a typical case which had been overlooked by several good general physicians and by at least one specialist of reputation. When recognized, it was not relieved by the first operation and for no other reason than that it seemed too simple to call for a careful technic. The next day the voice was still muffled and the mass in the nasal pharynx was apparently as large as before. Evidently the tumor was bifurcated and the anterior portion was pushed forward into the posterior nares at the first operation. A second operation was successful. Adenoids in adults are not common as they usually disappear before maturity, but, when they do not disappear, their character changes from those of childhood. The patients are really sufferers and there is no good in sprays or local applications or internal treatment. Results of complete operation are satisfactory and permanent.

Legal Rights of Doctors.—Arthur N. Taylor of New York says that the physician's professional and legal obligations are parallel in most cases. He need not attend every patient who applies for treatment, but having assumed charge of a case he is required to continue his treatment as long as is necessary, and to exercise ordinary skill and care. It makes no difference whether the patient is a charity patient or no. He must bring the requisite skill and knowledge to a case. He must exercise care in visiting patients ill from a contagious disease. If he uses his best judgment he is doing all that the law requires. In case of an operation on a wife who has consented to it, the consent of the husband is not required. An autopsy should not be performed without the consent of the next of kin. The question of fees is decided by the fees generally charged in the locality where the physician is practicing. In order to obtain his fees he must show that he is a legally qualified physician, and must prove his license to practice. He must then prove



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ARE THERE TOO MANY DOCTORS?—We have little sympathy with the constantly reiterated statement that there are too many doctors. As a matter of fact, there are too few of them—that is, of real doctors. There is more work for the doctors than they can properly attend to, provided they do it. The demands made upon the physician are much greater than they formerly were.

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Treatment of Erysipelas by Carbolic Acid and Alcohol.—Aspinwall Judd, of New York (*Medical Record,* February 13, 1909), recommends the use of strong carbolic acid painted on the surface in cases of erysipelas until the surface is whitened, and then followed by swabbing with alcohol. The treatment must go a half-inch beyond the border of the eruption to destroy all the germs. The unbearable itching, burning and throbbing are relieved at once, fever soon falls, and general symptoms are relieved. The author has treated successfully 67 cases, and 5 cases in which it failed. No scarring results. The superficial layers of the skin come off as in mild sunburn and the complexion is improved.—*New York Medical Journal.*

On the Use of Morphia in Affections of Infancy.—A. Lesage and Maurice Cléret (*Arch. Gén. de Méd.,* May, 1908) make a plea for the use of morphia in laryngeal affections associated with spasm, in which the antispasmodics generally used are known frequently to fail. They regard as a heresy the old doctrine that opium is unsafe in disorders of infancy, and they employ the hydrochloride of morphia in a 1 per cent. solution, in what one might almost term heroic doses. The initial doses they use by injection, which are repeated if necessary, are as follows: Up to one year of age one-third c.c., in the second year one-half c.c., in the third year two-thirds c.c., and over three years one c.c. Cases thus treated ran a much shorter course and much more rarely needed operative interference than cases in which it was withheld.—*Medical Chronicle.*

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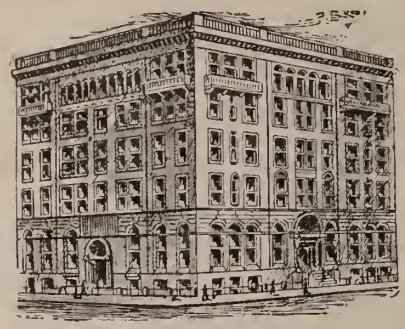
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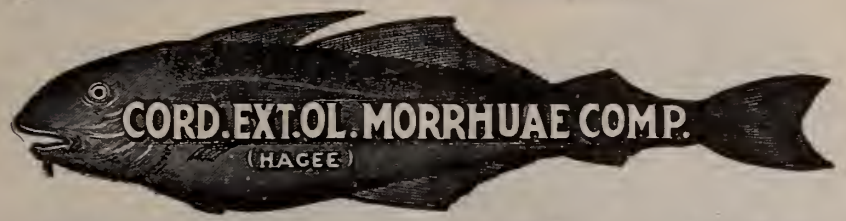
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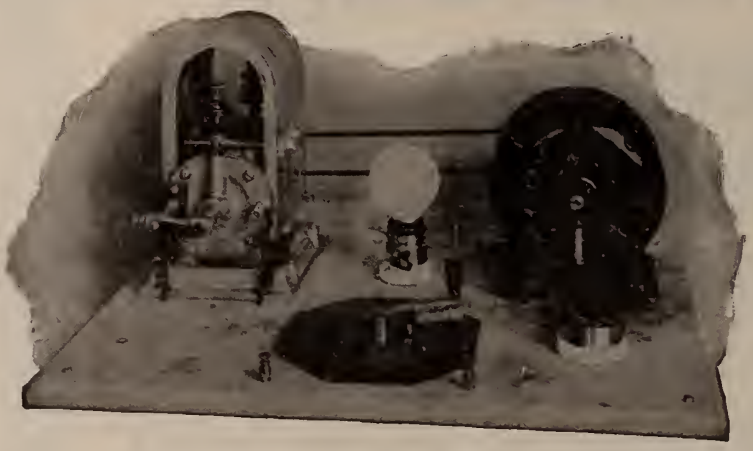
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Walter D. Berry, M. D.

CEMENT MAKERS' ITCH is a new disease of occupation, entirely distinct from ordinary itch; being neither parasitic nor contagious, but produced by the chemical or mechanical action of the cement upon the skin. Some physicians have attributed the corrosive action to calcium carbonate and to sulphuric acid. Fresh cement, however, does not contain calcium carbonate; and it is questioned whether slaked lime or even partly slaked lime will produce this effect, for masons working with lime mortar are seldom if ever attacked with cement makers' itch. The quantity of sulphuric acid in cement is very small. Possibly the effect may be explained by mechanical friction between the skin and very fine but hard particles of cement. Briquette makers, observes *Scientific American*, are subject to a similar but less serious annoyance. Cement makers' itch and ordinary itch have one symptom in common—intense itching, especially at night. The itching appears to be increased by the heat of the bed, and is also more annoying in summer than in winter. Scratching may produce infected wounds and swelling. Cement makers' itch is an occupational disease; true itch is seldom such. The latter can be cured comparatively easily, but not so cement makers' itch, which is like to be followed by eczema and other complications. The managers of cement works should always require their workmen to wear cotton gloves and garments tightly fastened at the neck and at the wrists. Cement workers on arches or ceilings should wear masks. Both gloves and masks should frequently be washed.—*Medical Times.*

AT THE HOSPITAL.

A young physician, proud of his three-days'-old diploma, was gleefully telling a physician of many years' experience of his luck in being appointed to the staff of one of the big Brooklyn hospitals.

"Just to think of it!" said the young man. "Here I am only a few days out of college, too. I expect to learn a whole lot in that hospital."

"Yes," said the old campaigner. "I know of no better place to confirm your diagnosis by an autopsy."

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ORIGINAL ARTICLES.

THE CLINICAL RELATIONSHIP OF OPHTHALMOLOGY TO GENERAL MEDICINE AND GENERAL SURGERY.

BY

J. H. WOODWARD.

The majority of us are apt to think that Ophthalmology is the science only of diseases and affections of the eyeball and the Orbital contents. Ophthalmology has a much wider scope than that and it is to that larger consideration of the subject that I would invite your attention.

Anatomically, the visual apparatus comprises the eyeballs, the extra-ocular muscles and other intra-orbital structures. Through the optic nerves, the sensory and motor nerves, and the sympathetic system it becomes an integral part of the Cerebro-Spinal system, or at any rate it is indissolubly associated with the basal ganglia, the cerebral cortex, the medulla and the spinal cord. The optic nerves and the retinae are processes of the brain.

The optic nerve is the only living nerve that may be seen by the observer. Changes in its structure whether local in origin or whether they be manifestations of pathological conditions in the central nervous system, or in the circulatory system or in the abdominal viscera, may be observed even in their incipiency and followed to their conclusion.

The retinal vessels are the only living blood vessels that are visible to examination, and changes in them and alterations in their walls are readily distinguished.

Such observations may reveal the state of the circulatory system at large, although a normal condition of the retinal vessels and circulation does not signify a normal state of the general circulatory apparatus. On the other hand an abnormal state of the retinal vessels and circulation does indicate that there is a corresponding condition elsewhere and, especially, in the cerebro-spinal distribution.

Finally, by virtue of the facilities afforded in measuring weakness and paresis of the ocular muscles through the symptom Diplopia, Ophthalmology affords a means of careful testing of certain important muscle changes that does not exist in any other branch of medicine or surgery.

Anatomically, therefore, the visual apparatus is intimately associated with the cerebro-spinal system and with the organs of circulation, and by virtue of such direct associations it is indirectly related to the abdominal viscera.

Functionally, the visual apparatus is intimately associated with the other apparatuses of the body. There is an action and reaction between it and the cerebral function, the circulatory function, the function of the abdominal viscera, the function of the genito-urinary organs, and even the function of the locomotor apparatus.

Organic changes in the visual apparatus and functional derangements of it are concomitant phenomena of both organic and functional derangements of other apparatuses of the general system. Such organic changes are often premonitory signs of serious disease, the commonly recognized symptoms of which have not yet developed. Noteworthy examples of this are the early occurrence of the Argyll-Robertson pupil in locomotor-ataxia and in general paresis, and weakness or paresis of the accommodation in tertiary syphilis. Associated with the Argyll-Robertson pupil, diplopia due to paresis or paralysis of one or more of the extra-ocular muscles is a symptom of the utmost importance. Double vision is always an important sign; for, in general, it is a manifestation of either functional or organic disturbances in the central nervous system. Inasmuch as Diplopia and the Argyll-Robertson pupil are often the earliest indications of severe nervous affections, examination of the pupillary reflexes and search for the presence of Diplopia are an essential part of the investigation of every case of nervous disease. There may not exist a cure for Locomotor-Ataxia or for general Paresis, but our chances of aiding patients affected with those maladies is greatly enhanced by an early diagnosis of the disease, which in a large percentage

of the cases is made only by examination of the visual organs. For tertiary cerebral syphilis there is fortunately a remedy which when applied early will obviate the supervention of ineradicable organic defects.

Ptosis, exophthalmus, enophthalmus, mystagmus, inequality of the pupils, abnormalities of the light and convergence reflexes whether they be of the Argyll-Robertson type or not, are common signs of central disease and they may be readily observed by the general practitioner.

Ophthalmoscopic examination reveals the earliest symptoms of cerebral tumor and cerebral abscess. Choked disc (swelling of the optic nerve ending) precedes the localizing symptoms of tumor; choked disc with headache, without albuminuria or casts, is pathognomonic of an intra-cranial neoplasm or abscess.

Detection of these conditions are among the easy things in ophthalmology. Refined and advanced methods of examination of the visual apparatus enable us to differentiate functional nervous diseases from organic maladies and permit us to state with a degree of certainty the nature of the derangement.

It has been stated that the vessels of the retina are the only blood vessels of the human organism that are visible. It is easy to examine these vessels, to note their general characteristics, to observe the rhythm of the blood current through them, to investigate the condition of their walls. We are able to state positively whether the walls of the arteries and veins are healthy, or sclerosed, or even whether they are atheromatous.

Atheroma and sclerosis of the retinal vessels are commonly associated with similar states of the cerebral nerves. Inasmuch as arteriosclerosis and atheroma play an important part, especially in the chronic and subacute disease of advanced life, the significance of the probability of revealing the existence of such arterial and venous changes by examination of the visual apparatus need not be emphasized.

Many times I have been able to predict an early cerebral apoplexy, on the evidence revealed by the ophthalmoscope, and often I have been able to avert such a catastrophe through similar findings. Organic disease of the heart reveals itself by visible phenomena in the retinal circulation.

Albuminuria of pregnancy is a symptom, the gravity of which is recognized by every medical man. Associated with it, dimness of vision and specks floating before the sight are of common occurrence. Whether dimness of vision and specks before the eyes are noticed or not, in every case of pregnancy in which Albuminuria has been detected, an examination of the visual organs should be made by an expert. For it is by that means only that the existence of swelling or inflammation of the optic nerves, or the presence of retinal hemorrhages, may be detected. Such changes in the optic nerve or in the retina, whether associated or not, are portentious symptoms. They declare with no uncertain warning that an immediate miscarriage or abortion must be induced. I speak positively on this point. Delay in such cases means indifference, ignorance, or lack of courage on the part of the attending physician. The risks of miscarriage or abortion are nothing compared with those of delay in applying the only effective treatment.

The Nephritis of Scarlatina and Diphtheria causes inflammation of the optic nerves and retinae and such inflammations are followed by atrophy of the nerves unless prompt and efficient treatment be applied. In the early stages there may be no indication in the sight that such a grave condition exists. Its onset is insidious, its termination is grave in the highest degree. Unfortunately the condition is revealed only by ophthalmoscopic examination which must be conducted under unfavorable conditions in many cases.

I suppose it is still a question whether in chronic nephritis the changes in the Kidney are primary or whether those in the circulatory system are primary. It seems to me, however, that arteriosclerosis is the primary state. But, be that as it may, in the various renal maladies formerly classed as Bright's disease, we observe changes in the visual organs, especially within the eyeball, which are almost pathognomonic.

Inflammation of the optic nerve, inflammation of the optic nerve and retina, retinal hemorrhages with and without inflammation of the optic nerve and retina are observed in acute, subacute and chronic nephritis. Such inflammations and hemorrhages are accompanied by dimness of vision. And their occurrence is significant as to the duration of life and the integrity of sight.

Among the functional anomalies of the visual apparatus, eyestrain holds the most prominent

place. Eyestrain may occur by virtue of overuse of the eyes, by virtue of use of the eyes in insufficient light, by studying long hours in badly ventilated rooms. It occurs by virtue of the existence of errors of refraction and also as a consequence of anomalies of the extra-ocular muscles.

To all intents and purposes, eyestrain is muscle strain, that is to say it is a strain of the muscle of accommodation or of the extra-ocular muscles, or of both. When the general vitality is below normal, eyestrain may be observed, for the eyes sympathize with the general condition. But eyestrain interests us particularly as an etiological factor in the promotion of certain functional diseases of other organs than the visual apparatus. Chronic recurrent headaches, not due to organic lesions, or toxemia, are pretty certainly attributable to eyestrain. Even migraine, which should be regarded as a true neurosis, may be a symptom of eyestrain. Epilepsy and true chorea are seldom caused by it. Gastralgia, nausea and vomiting, and functional diseases of the liver and intestines depend for their existence upon eyestrain in a definite number of cases. If it be true that abnormal conditions of abdominal viscera may cause functional derangement of the visual apparatus, it is equally true that eyestrain will produce functional derangement of the abdominal viscera. Even subjective symptoms simulating appendicitis are caused, from time to time, by eyestrain.

An eminent surgeon of New York City is in the habit of sending me many cases presenting abdominal symptoms for a report on the state of the organs of vision prior to his decision proposing or rejecting an operation. He has favored me in this way for a number of years, and I am justified in supposing that my examinations serve him a useful purpose. Headache, migraine, vertigo, insomnia, neuralgia of the head and neck, neuralgia of the abdominal viscera, nausea and vomiting are so commonly caused by anomalies of the visual apparatus, that in every chronic case having such symptoms, a careful examination of the eyes should be made.

Time does not permit a more extended or a detailed discussion of this topic. I have endeavored to indicate some of the salient points, leaving much that is interesting and important undiscussed.

New York, October 12th, 1909.

DISCUSSION.

Dr. M. L. Chandler, Barre, Vt.—I have very little to say with regard to this paper. During the course of my practice I have had occasion to send quite a few of my patients to the ophthalmologist. Dr. Woodward has told us today something that concerns every one of us and that is with regard to the school children. I have seen the effects upon small children in our public schools in the first and second grades. They are supplied with few text books; all their exercises are written on the blackboard. They do more or less copying. Their work is copied, on paper placed on the desks, from the blackboards about the room. There is a continual strain, first looking at the board, and then writing on the paper and this performance is repeated for ten or fifteen minutes at a time. If they are conscientious and do their school-work as they should, and most children are anxious to do their work well, they suffer from headache and nervous troubles. I think the remarks by Dr. Woodward should be emphasized and brought home to every school board in Vermont.

Dr. M. C. Twitchell.—Some years ago I heard a lecture on Locomotor-Ataxia, in which considerable emphasis was laid on the presence of incoordination and little on the Argyll-Robertson pupil. The Argyll-Robertson pupil is one of the most important symptoms in locomotor-ataxia. Time and again it precedes every other symptom. It occurs in practically every case sooner or later but is an incipient symptom in somewhat more than one-half of the cases: its great value depends on the fact that it is so often an early symptom. Diplopia, as Dr. Woodward states, is another important symptom and frequently an early one.

Suppose, in a patient who has headache, vomiting and vertigo, a diagnosis is in doubt between a tumor of the brain and something else. If on ophthalmoscopic examination a choked disc is found, the diagnosis is at once much simplified, for in about 90% of cases of brain tumor this choked disc is present. There is a marked tendency in pregnancy for the attending physician to be ultra conservative. If a pregnant woman has albuminuria, with dimness of vision, the time for conservatism has passed. I think we must all agree with Dr. Woodward that this is no time to be conservative. It is true a certain number will turn out all right, especially if the dimness of vision does not come on until a week or so of full term, but if this condition happens earlier in the pregnancy and she doesn't die, she will be blind or partly blind, without the uterus is emptied. The thing to do in all these cases is to bring on labor and bring it on at once.

In chronic interstitial nephritis, the first symptom that presents the patients to a doctor, may be a failure of vision. This does not mean that albuminuric retinitis in chronic nephritis is an early symptom. It is a late symptom, coming on only when the disease is well advanced; but a patient may have advanced chronic interstitial nephritis and not find cause to consult a doctor until his vision begins to fail.

Dr. Woodward's paper, you know as well as I, was an excellent one from a medical standpoint, moreover

it was exceptional from a literary standpoint. He is the possessor of a clear, concise and forcible style, and I hope he may some day see his way clear to give us a textbook on ophthalmology.

Dr. G. H. Gorham.—I think that any one who is doing special work upon the eye could most heartily second all that Dr. Woodward has said. I do not think the general practitioner makes enough use of the specialist, especially the ophthalmologist. The ophthalmologist would be of material help to him in many cases if he would only call him in consultation. Dr. Woodward has presented a number of diseases in which it would be advisable to call in the oculist. In one line I do not think the general practitioner has thought there has been any connection and that is between abdominal symptoms, gastric intestinal troubles, and the eye, but I have seen so many cases in which the patient complained almost entirely of stomach trouble and who on examination was found suffering from eye strain and which was relieved by properly fitted lenses, that I can't help but feel that the specialist is not consulted as many times as he should be. It is true that some of the eye symptoms occur late in kidney troubles, but in many cases the first symptom the patient complains of is dimness of vision. On consultation we find marked changes in the retinal field, sure symptoms of nephritis. I simply wish to say that I think, gentlemen, it will help you in many of these obscure cases if you will consult the ophthalmologist.

Dr. H. D. Holton.—With regard to the use of blackboards in schools I would say that no doubt most of you have seen the circulars issued by the State Board of Health on this matter. I have seen a great many children suffering from eye strain by attempting to transcribe work from the blackboards arranged about the schoolroom. We have recommended that all such work be done away with and that the pupils be supplied with books which have the work in them.

Dr. J. H. Blodgett.—In albuminuria of pregnancy, if that condition is discovered during pregnancy, what could the specialist offer us as to prognosis if an immediate examination of the eye was made?

Dr. J. H. Woodward.—I have seen an ocular lesion as early as the third month. It means eclampsia is threatened. If you allow the patient to go on to full term, the chances are almost absolute that the resulting injury to the optic nerve will be more or less complete. The only advice I can give is to produce an abortion.

Dr. L. A. Russlow.—I was called to see a man who was struck in the eye by a calf. When I arrived this man was vomiting and the stools were very loose. Is that a coincident, or was it a direct, result of injury to the eye? This morning when I called he had a severe pain in the eye which was relieved when he had a stool. Every time he had a pain in his eye, the relief came after he had a stool which was very loose.

Dr. J. H. Woodward.—I would say that the symptoms were a result of the injury. The nausea and vomiting was undoubtedly reflex vomiting.

SHE KNEW.

He—Well, I've found out one thing. You have no heart.

She—Oh, come now. How can a man without brains know anything about anatomy?—*Pharm. Era.*

SLEEP — SLEEPLESSNESS AND HYPNOTICS.

BY

S. W. HAMMOND, M. D.

Sleep is a normal condition to which every being is subject at more or less regular intervals of time; a condition into which every human being should and may enter at least once in every twenty-four hours.

The fact that a healthy man from cradle to grave spends about one-third of his life in sleep, together with the frequency with which we are consulted for its worst disturbance, insomnia, makes the subject worthy of consideration; more than it often receives at the hands of medical men.

That the phenomena of sleep is brought about by a condition of temporary brain anemia, is practically agreed upon by all physiologists; as to what agent or agencies may cause this anemia, there are many theories and some disagreements.

The coexistence of certain physiologic conditions as that of digestion—some cutaneous conditions and drowsiness have been known and studied for a long time.

It has been thought that sleep has been produced by the wastes of the body, more particularly those of the muscular and nervous systems circulating in the blood, inducing sleep by their effect on the cerebral cells; a sort of natural coma being produced—nature's general anesthetic as it were.

Howells regards the fatigue to the vaso-motor center in the bulb as the important cause of the diminished blood supply to the brain, this fatigue being caused by the continuous activity during waking hours.

Girondeau and Sorbonne have attempted to explain the phenomena of sleep in that the lymphatic spaces around the cerebral vessels being filled with lymph during sleep, exert a pressure effect upon the blood stream, thereby retarding the circulation, while Pflüger of Berlin believed that in the special action of carbon-dioxide on the blood and tissues, a strong cause was found for sleep; he reasoned that as the brain required an enormous vital energy to sustain mental action and that this energy is generated by a series of violent oscillations or explosions caused by the formation of carbon dioxide through the action of oxygen, it would

follow that the exhaustion of oxygen would asphyxiate the brain, bring consciousness to a stop, and thus cause sleep.

The real cause or causes of sleep being for the most a matter of conjecture, it follows that for the explanation of insomnia, or lack of sleep, we must rely upon clinical observation. We know from the use of drugs empirically that they will produce sleep, but no experimental work has as yet been done which tells us how the drugs act upon the centers of the nervous system to produce sleep.

Sleep should be approached normally with a sense of drowsiness, increasing to the point of complete unconsciousness, be accompanied by relaxation of the muscular system, with lessened activity of all the vital functions, and in the awakening from which, the subject should have no memory of dreams, experience a sense of rest, well being and have fresh invigoration for both mental and manual labor.

The amount of sleep required by individuals varies; it decreases normally from babyhood to old age. The brain worker requires less sleep, as a rule, than the physical laborer. Frederick the Great and Napoleon are said to have been satisfied, at long intervals of time, with three to four hours of sleep, while many seem to require nine to ten hours.

Sleep is longer and sounder in cold climates and amongst Northern races.

Women require more sleep than men.

Persons of nervous, active temperament require less than those of plethoric habit.

The necessity for sleep to maintain life is greater than for food. De Manessein in his experiments on puppies, developed the fact that they could live after a twenty days' fast, but could not after an enforced abstinence from five days' sleep.

Patric and Gilbert in their experiments on human subjects, discovered that memory and attention were greatly weakened after enforced wakefulness—one subject failing to commit to memory in twenty minutes what normally could be acquired in two. Urinalysis in such subjects shows a greatly increased output of phosphoric acid.

It may be said at the outset with reference to insomnia that the statement of patients consulting us for this symptom should always be taken with some degree of doubt. There is nothing they will dwell upon with more exaggeration than upon how poorly they have slept and if a competent nurse be on the case in question, the morning's record may be found greatly at variance with the patient's statements. He will say, "I did not close my eyes all night," while the nurse's record will read, "11 p. m.—sleeping. 1 a. m.—snoring. Patient rested fairly well all night." If the patient has lost an hour or two of his usual sleep, he is wont to make misstatements regarding it. This comes from the twofold reason of patients' tendencies to magnify all bodily ills, together with grudgingly giving up a little sleep to which they have been accustomed to enjoy with regularity.

A case in point, Mr. O. J. W., age 22, broke down in his second college year, but by pure determination continued his work to graduation, now to be an almost helpless neurasthenic. He claimed recently to have passed two and three nights in succession with absolutely no sleep, but on close questioning was in doubt as to whether he had at any time heard the striking of a large clock, situated close to his bed and expressed great surprise that he had not done so. It developed that this young man is a very light sleeper, is harassed with dreams all night, which he considered as rambling and uncontrollable thoughts.

I feel that many times in the treatment of our cases of insomnia, especially the chronics who see us at our offices, we make two grave mistakes: first, neglect entirely to go into the patient's history for the purpose of ascertaining the cause of the insomnia; and second, do just what the patient asks us, give something, i. e., prescribe some hypnotic drug, whereas close inquiring would reveal that the case in hand could be much better helped out of the sleeplessness by other and better means than by drugging. To be sure there are cases in which the patient has for causes not now apparent, gotten into a vicious circle. They go to bed expecting to spend a sleepless night and they get what they expect. In such cases, this condition can often be broken up by the use of a mild hypnotic for a little, together with liberal doses of suggestion.

Insomnia per se if untreated, will produce grave nutritional changes, emaciation, debility and when prolonged, is of bad import.

Bulkely states that eczema has appeared as the result of long continued sleeplessness.

There have been many groupings of the causes

of insomnia by different writers. Emerson in his article in the *Reference Hand Book of Medical Sciences* regards Prof. Bradbury's classification in *Allbutt's System of Medicine* as the most comprehensive. In the first class are given irritative causes, such as pain, teething of children, eyestrain, irritation of eczema, discomforts following surgical operations, affections of the respiratory apparatus especially if accompanied by cough, acute inflammations of serous membranes, many tumors and surgical diseases, pain being the predominant factor in this group.

In the second class are toxic causes, such as alcoholism, the exanthemata, most of the zymotic diseases, dyspepsia and intestinal disorders, gout and Bright's disease. In this class is also included heart disease, altered vascular conditions, certain drug habits such as opium eating and cocaine using.

The third class is the Psychical Class; a nervous temperament, neurasthenia, hysteria, hypochondriasis, grief, shock, worry and mental anxiety and threatened insanity.

Fourth causes arise from change in the mode of living—such as change in the time of the principal meal, change of climate, from low to high altitude, change in the time of day for laborious pursuits, as of nurses from day to night work.

With the exception of our cases of acute disease, by far the greater proportion of the insomnias for which we are consulted are symptomatic of the neurasthenic state and are not disease entities.

Dr. Edward F. Cowles of Waverly, Mass., has said that one of the greatest causes of insanity is the abuse of hypnotic drugs.

I do not believe that any physician present will other than agree that all measures to produce or induce sleep should be first tried before resorting to their use; hence to some extent must we speak of those commoner procedures which aid us in inducing sleep. It is worse than abuse of drugs to administer them to patients when they would sleep by instituting such mild hypnotic treatment as a warm bath at bed time together with the taking of a cup of hot broth or gruel. Many patients have been brought from insomnia to sound sleep by merely stopping the use of coffee or tea, the partial or total abstinence from tobacco.

Doctors are human and in their prescriptions exhibit the same tendencies of laymen; they are prone to prescribe those lines of treatment, which may have benefitted them, for example, a hunting doctor will advise hunting; a fishing doctor, fishing; a golfing doctor, golfing and so on with autoing, horseback-riding, etc.—and all without much study of the particular needs of the case in hand.

In my experience, I have not found it wise to outline an entirely new mode of living for a patient suffering from insomnia of neurasthenia, although well recognizing the desirability of a change of régime.

About as much real, needless hardship, expense and deprivation of home and friends has been imposed upon this class of cases, as has been in the past upon persons affected with tuberculosis. Their individual wants, tastes, and the avenues of life in which they find greatest contentment are not closely enough looked after, hence a person who may like ocean travel or residence at the beaches is sent mountain climbing. Some like the bustle of the cities, others like the quiet of the woods.

I have learned that patients need not always be put away where they will not see any person in order to get better. It is not always rest of both mind and body, which makes these people sleep better. Diversion, I believe to be the keynote and such diversion as may be pleasant and not abhorrent to the patient should be sought for.

In exercise we may do harm or good for our patients, whereas in exercise we derive normally the resulting fatigue, a potent factor in producing sleep, yet for neurasthenics a small amount of exercise may prove to increase the wakefulness of the patient, it acts as over fatigue.

Massage is a good sleep producer, when properly applied, but much of the success in its use depends upon the skill of the operator. Massage as a hypnotic should be applied at bed time.

Electricity is questioned by many as being of value as an hypnotic agent; galvanism is the only form suggested in this connection.

In hydrotherapy, when practicable, we possess a most potent remedy for insomnia, either in the form of foot baths, general hot tubbing until the capillaries are fully dilated, cold applications being applied to the head during the bath.

The moist pack may be tried, the patient remaining in it from one to two hours.

It may be taken as a fact from the many hypnotic drugs, both old and new, which have been devised, together with the constant efforts of chemists to draw medical attention to others that the ideal hypnotic has not been and may not ever be discovered; at least will this be so until the physiology of sleep and the action of drugs in applied therapeutics are better understood. Reverting to our not too arbitrary classifications of the causes of insomnia—in first causes is included pain and conditions akin to pain—it is obvious, should our patient be able to sleep but for acute pain that an analgesic remedy should be used and not a pure hypnotic. The character of the pain must of course be borne in mind. No remedy is so sure as opium and its alkaloids in this class of cases. It must, however, be considered as to whether the pain is of the kind that is likely to be soon subdued by natural causes or whether it may continue indefinitely, owing to the habit forming tendencies of this family of drugs.

Morphine, heroin and codeia are excellent hypnotics in insomnia from the dyspnoea of cardiac and renal disease and are usually permissible in these incurable afflictions; they may also be employed with safety at the latter stages of febrile disease or any condition dependent upon brain exhaustion or anemia.

Codeine is a less certain hypnotic than morphine but is less constipating and to be preferred when the insomnia is due to cough.

Chloral hydrate is one of our purest hypnotics producing sleep ordinarily in from 10 to 30 minutes. It is unpleasant to taste and I have found that if the stomach be at all fickle, it is apt to be promptly returned; the sleep produced is usually refreshing in character—the patient awakening easily while under its influence and returning to sleep when left undisturbed. Choral may be employed in nearly all cases of insomnia—excepting those in which the heart is enfeebled, it being somewhat depressant to this organ.

Chloral is said to act more favorably in combination with Ergot. Its habit forming tendencies must not be forgotten.

The bromides of potassium, sodium, lithium are valuable hypnotics in cases accompanied by unusual mental or emotional excitement, as in severe mental strain, worry or grief. The bromides are often used in conjunction with chloral in acute alcoholic mania; they disturb the stomach if in too concentrated solutions and cause a disagreeable acne, if continued too long.

Sulphonal, trional and veronal are among the later hypnotics and act much alike. The two latter are now perhaps the two most popular of our hypnotic remedies. Sleep following the use of these drugs seems to be sound and without notable aberrations of the functions of respiration or circulation occurring.

Many other hypnotics have been suggested, the time allotted permitting the mention of their names only.

Paraldehyde, amylene hydrate, hyoscyamus, hyoscyamine, cannabis indica, hedonal dormiol, choretome chloralose, mederial and others.

There is no hypnotic drug remedy with which I am acquainted which is without either disagreeable present or after effect, danger, or habit forming principles.

DISCUSSION.

Dr. C. W. Strobell, Rutland, Vt.—One week ago while in attendance upon the sessions of the annual convention of the American Electro-therapeutic Association, held in New York City, it was my great privilege and pleasure to witness a demonstration of the most remarkable character, namely, the production of the phenomenon of electric-sleep, which is also synonymous with surgical anaesthesia, the anaesthesia differing, however, from drug anaesthesia in that there can be no poisoning or ill-effect as the recovery is almost instantaneous when the current is turned off.

The demonstration was conducted by E. Robinovitch, M. D., of Paris, a woman scientist and research worker in the French laboratories and in the employ of that government. It was in the process of solving the problem of the "resuscitation of the apparently dead" more particularly in connection with accidental electric contact in the trades, that the discovery of the process of inducing artificial sleep and surgical anaesthesia had been made.

This was the first public demonstration of the method since its completion, and the first also to be given in this country. It was of great interest to see the crude original electric apparatus with which the work had been carried on and which generated a current, denominated by the inventor "induced-galvanic" characterized by extreme rapidity of interruptions, 1200 per second. With the cathode pole over the occipital and the anode over the sacrum the doctor produced "sleep" in the animal in thirty seconds. Sensory reflexes were abolished, but motor reflexes were retained. The animal was pronounced to be in surgical anaesthesia. Dr. John Wyeth and Dr. Abram Jacobi being present by invitation, Dr. Robinovitch reached out the scalpel but both Drs. Wyeth and Jacobi said that they were satisfied that the animal was in sound sleep-anaesthesia. I was curious enough to test the condition and took the scalpel and made an incision into the animal's thigh.

There was absolutely no evidence of pain and I was satisfied that the surgical anaesthesia was complete. The doctor stated that all their laboratory vivisection work was conducted by this method which is ideal. The animals of course were always killed with chloroform at the end of the study and never allowed to regain consciousness.

Dr. Robinovitch was asked—How long can the sleep be prolonged without harm to the animal? The answer was—I do not know. The longest time I have ever kept an animal under, is eight hours and twenty minutes. Then some one else asked—What is the effect upon the animal and how does it act, when the current is turned off? To these questions Dr. Robinovitch replied—I will show you, gentlemen, just what always happens when the current is turned off, after brief, or prolonged, electric sleep-anaesthesia, uncomplicated by surgical operation or experiment. The doctor here turned off the current, upon which the animal immediately assumed a sitting posture and looked about the room in a bewildered way and appeared disinclined to make any effort to escape. During the seance, which lasted about twenty minutes the heart action and respiration seemed normal and the pupil unaffected. Morot reflexes somewhat exaggerated, so that upon grasping the animal's leg, one single jerk would follow after which complete impassiveness.

Dr. E. R. Campbell, Bellows Falls, Vt.—I wish to ask if it is normal sleep where the dreams do not make sufficient impression on the memory to be retained after waking hours. Is it normal to dream and not retain the dreams after waking?

Dr. S. W. Hammond, Rutland, Vt.—I don't know what experiments may have been tried along this line. I certainly can't say whether normal sleep should be accompanied by no memory of dreams or not.

THE SECONDARY WORK OF THE DIGESTIVE JUICES.

C. F. DALTON, M. D.

The word "secondary" is used somewhat arbitrarily in this connection, mainly for want of another word which more clearly expresses the desired meaning. The object of this paper is to turn aside from the beaten paths of physiology and show some of the less-known functions of the digestive fluids as well as to call to mind some of the questions which confront the physiologist or physiological chemist, who endeavors to explain all that he discovers in his investigations.

THE SALIVA.

The first digestive fluid with which the food comes in contact in the alimentary canal is the saliva. This secretion is continuous, though more abundant under the direct stimulus of food, or indirectly the desire or thought of the same. The only food principle upon which the saliva acts chemically is starch, and this starch must be cooked, or, in other words, released from its containing envelope of cellulose. The ptyalin of the saliva has the power to convert cooked starch into dextrine and maltose, but this process in most salivas requires from one to three minutes, together with thorough mixing. Is it not pertinent to ask, where is the man in this generation who spends one to three minutes over each mouthful of food? True, it does continue to act in the stomach until permeated by the HCL, but even so, it is doubtful if the saliva is sufficiently mixed with the bolus to cause much change in the short time before it is rendered inert by the acid reaction.

As to the extent to which saliva may carry carbohydrate digestion, some authors, Hammarsten, Witthaus and others, describe an enzyme called glucose, which is capable of converting maltose into dextrose and levulose. In the college laboratory last year, only one student in a class of 62 succeeded in obtaining dextrose as a product of his own salivary digestion.

Now, since the saliva is so little used, it would appear that the removal of the salivary glands would cause no disturbance in digestion. This has been proven to be a fact. Dogs deprived of their salivary glands, by a German observer, showed no evil effects, although it was noticed that the dogs drank more water than usual with their regular diet.

It appears then that the digestive function of the saliva is held continually in abeyance and that possibly its chief importance at present lies in its mechanical action. It keeps the mouth clean by constant secretion and protects the teeth from the action of acids. It moistens the food to a greater or less degree, and certainly affords easy passage through the esophagus by its viscidity. The large quantity secreted and swallowed also furnishes fluid for the solution of the food substances in the stomach and intestine. In support of this view it may be shown that certain mammals who live in the water, and whose food is therefore sufficiently moistened, entirely lack salivary glands.

THE GASTRIC JUICE.

The gastric juice, the next fluid in order, differs from all the others by its acid reaction. This reaction is due to the presence of free and combined HCL, the amount of which is sufficient to completely saturate all the bases present and

still leave free acid in the stomach. The significance of this acid reaction is usually thought of as furnishing a medium in which the pepsin may act, this ferment being entirely inactive in any other than an acid medium. Later developments, however, seem to show that it is the pepsin which has been adjusted to act in the acid medium, and not the acid made for the pepsin. This assertion gains credence in the fact that pepsin acts in oxalic, lactic, phosphoric, and slightly in sulphuric and other acids. What then is the purpose of the large amount of HCL secreted by the gastric glands, which has the labor of acidifying all the food taken, which labor is immediately undone, as soon as the food reaches the intestine?

It is a known fact that free mineral acid is one of the best antiseptics, and also well known that the food eaten by man and beast contains great numbers of micro-organisms of various kinds. It is quite reasonable then to attribute to the HCL the function of killing the bacteria which reach the stomach, and thus preventing the putrefactive process which would otherwise destroy the food by decomposition before absorption could take place.

Nor is it simply left that there should be an acid reaction without definite strength. Experiments have been carried out to show what strength of acid suffices to prevent the development of putrefactive organisms. With a solution of .1% HCL it was found that slight putrefaction was detected within 24 hours. A strength of .25% prevented the development of organisms until the seventh day. A third experiment, with a solution of .5% strength was only capable of retarding putrefaction until the seventh day, showing no apparent advantage over the weaker solution. The estimation of free acid in the stomach shows a strength of .2%. We thus observe that the free HCL in the gastric juice exactly corresponds to the minimum quantity necessary to prevent decay during the time the food might under any circumstances, remain in the stomach.

Unfortunately the antiseptic powers of the gastric juice do not extend to all the bacteria which are introduced into the alimentary canal. Certain pathogenic organisms, among them the tubercle bacillus, are not acted upon by the gastric juice. The comma bacillus is easily killed by dilute HCL. Anthrax virus has been rendered inert by the gastric juice, but anthrax spores seem able to resist its action.

The free HCL of the stomach is without doubt responsible for the so-called "alkaline-tide" of the urine directly after a meal. The explanation is probably as follows: During the height of gastric digestion, the bases of the blood lose their CL by the formation of HCL. These bases unite with the phosphates of the urine to form alkaline phosphates, in place of the acid phosphates to which the reaction of the urine is ordinarily due. The latest function attributed to the HCL, is that the acid reaction causes the opening of the pyloric sphincter, allowing the chyme to escape into the intestine, and reversely, by coming in contact with the alkaline intestinal walls, closes the sphincter again and keeps it closed until the portion in the intestine is sufficiently neutralized. This is the result of researches by Parlow.

These facts then we may state regarding the gastric juice: From a membrane in which no acid can be found, a free mineral acid is secreted. This acid is in exactly the correct proportion to keep the stomach contents from putrefaction. It also kills some pathogenic bacteria, though others are not injured by it. It is responsible for the alkaline-tide of the urine. The pepsin seems to be a subsidiary ferment, secreted to begin the digestion during the process of acidifying the food. The control of the pyloric sphincter may be due to chemical rather than mechanical conditions.

THE PANCREATIC JUICE.

Upon leaving the stomach, the food comes under the influence of three digestive juices, all alkaline in nature, the pancreatic juice, the bile, and the intestinal juice. At the present state of our physiological knowledge the pancreas appears to be the most important of all the digestive agents. It is described as having three pirncipal ferments trypsin: amylopsin and steapsin or lipase, and also a milk curdling ferment. It has been only very recently however that any author has had the temerity to claim a separation of these ferments into their single functions, it being generally mentioned that in all attempted isolations the only result was a fluid having the three-fold action.

In passing, let me remind you that the amylopsin of the pancreatic juice changes all starches

and sugars to a single sugar, called grape sugar or dextrose, in which form they are absorbed. The fate of cellulose, the so-called insoluble carbo-hydrate, is as yet little known. Much of it goes through the entire tract undigested. Outside of the body it withstands the action of all the digestive secretions. Yet within the intestine some cellulose is certainly made use of. This may be due to some as yet unknown combination of digestive chemicals, or to the action of bacteria. A few authors claim that cellulose is not used as food, but is split up to form carbonic acid and marsh gas.

As to the proteolytic action of the pancreas, I shall simply say here that, as far as we know, it is identical with the gastric action up to the point of peptones, but has the power of carrying proteid digestion to a still further stage. Of peptones I shall speak more later.

It has long been known that fats were absorbed in the form of an emulsion, produced by the combined action of the pancreatic juice and the bile. Now an emulsion cannot be formed from a fresh fat alone. A small amount of free fatty acid must be present, or in other words, the fat must become slightly rancid before an emulsion can be formed. The lipase or steapsin is the agent which performs this fat-splitting function. But according to Oppenheimer in his work on Ferments, the lipase has also a reversible action—that is, it is able from fatty acids and glycerine to build up true fats. To what use this power may be put, I am unable to say.

The pancreas also has some unknown action regarding the absorption of fats, for after extirpation of the pancreas in dogs, fat absorption is entirely abolished, although some of the fats may have been split up into glycerin and fatty acids by bacterial action. If some pig's pancreas is now fed to the dogs along with the fat, a portion of the latter is absorbed. This may be due to the alkaline reaction produced by the sodium carbonate of the pancreatic juice; yet it has been shown that an intestinal emulsion differs from other emulsions in not being destroyed by a slightly acid medium. Therefore as regards this action we are as yet quite in the dark.

To sum up the work of the pancreatic juice; although it is probably the most important of the digestive juices, it is the one we understand the least. It carries on the regular digestion of proteids and carbohydrates, but in its work on fats it must be assisted by the bile. It also has a marked influence on the absorption of fats.

THE BILE.

The bile is peculiar in being the only digestive secretion poured into the alimentary canal before birth. Its secretion is said to begin about the third month of embryonic life, and the products are found in the meconium of the new-born. When bile is prevented from reaching the intestinal tract, from any cause, fats cannot be digested, but appear in the feces. For this reason the feces of a jaundiced person are light gray or clay colored. This is not due to the absence of bile pigments, as was originally thought, but to excess of undigested fat. If these feces be extracted with ether to dissolve out the fat, the dark color returns. While the bile cannot digest other food substances than fats, its absence hinders the digestion of all foods. The fat forms an envelope around the carbohydrates and proteids and shuts off the action of the digestive fluids, at the same time allowing the putrefactive bacteria which the food has gained since entering the intestine to begin their work. This fact of decomposition in the absence of bile has been construed as ground for an antiseptic action in the bile. In reality the bile cannot even protect itself from decomposition, and if there is any such action, it is due to the free bile acids, which may have some slight power in the upper part of the small intestine before the acid reaction is changed.

THE INTESTINAL JUICE.

There remains for consideration only the intestinal juice. Thiry, a German scientist, made an artificial fistula in the small intestine of dogs, to obtain this juice. Demant, another German, had opportunity to collect the fluid from an artificial anus following herniotomy. Results were very unsatisfactory in both cases. The juice was found to act on boiled starch but that only slightly. However, the property of inverting double sugars is accorded this secretion by most authors. But it apparently has further use. Both the observers mentioned agree that the intestinal juice is rich in sodium carbonate. The conclusion is that this fluid has the work of neutralizing the acids of the intestinal contents, the remaining HCL of the gastric juice, and the butyric and lactic acids which have been formed by fermentation. Another curious action

ascribed to the intestinal juice, is that in combining with the acids it forms a gas and so forcibly breaks up any food which may have come through in bulk, thereby enabling the other ferments to do their work.

In a recent article by Mendel of Yale, published in the *Journal of the A. M. A.* (Nov. 19) he intimates that the intestinal juice is of much more importance than has hitherto been supposed. He refers to the theory that the intestinal juice is necessary to "activate" the trypsinogen of the pancreas, thereby throwing the responsibility of all the proteolytic action in the intestine upon the presence and integrity of this juice.

From the foregoing statements one may realize something of the chaotic state in which physiological chemistry is at the present time. The difficulty of course lies in the fact that what a ferment or dead membrane will do outside the body, may be entirely different from its action while in its native element, and mixed with other secretions. Hammarsten expresses the problem well in his introduction to an article on chemical processes in the intestine. He says: "The action which belongs to each digestive secretion may be essentially changed by mixing with other digestive fluids; and since the digestive fluids which flow into the intestine are mixed with still another fluid, the bile, it will be readily understood that the combined action of all these fluids in the intestine makes the chemical processes going on therein very complicated."

A word may not be out of place here regarding the fate of proteid and carbohydrate products before they can be utilized in the body structure. In studying digestion one does not always realize that the laborious process of breaking down proteids and carbohydrates into simpler chemical compounds is apparently all undone before the system makes use of the same. Take, for example, egg albumen, which we classify as a native albumen. During digestion it goes through the various stages of syntonin, proteose and peptone, one or all, requiring from two to five or more hours, and is then ready for absorption. But is it used as peptone? No—we do not find peptone in any of the tissues, and if introduced into the blood it is at once thrown off by the urine. Experiment shows that probably in the passage through the mucous membrane of the stomach or intestine, peptone is changed back to serum-albumen, which is again a native albumen—the very thing which it was before digestion. Why was all this work done when the whole process is reversed perhaps in a very few moments?

Again, take starch, a polysaccharid; it must go through the stages of dextrine, maltose and dextrose before it can be accepted for absorption. Then note what occurs. It is at once carried to the liver which picks out the greater part of the dextrose and changes it back to glycogen, a form of starch—polysaccharid, which it was before digestion. Such sugar as the liver does not take out is carried to the muscles, which also appear to have the power of transforming sugar into glycogen. Then the blood goes to the kidney which measures as it were, the amount remaining and takes out the excess, allowing not more than .3% to circulate in the blood.

The analogy between these food products is quite striking in their preparation previous to absorption and their subsequent change. Just why the body goes through the process of peptonization, for instance, and then refuses to use the product of the same is difficult to say. It certainly produces chemical action and so furnishes heat, but whether this is simply nature's way of burning fuel and utilizing the after-products can only be conjectured. On the other hand it has been suggested that this is the only means of maintaining the chemical integrity of the body from the coarse and foreign substances which are taken as food. This theory is certainly within the bounds of reason.

SUMMARY.

In conclusion let me briefly summarize these functions which we do not look at as *digestive* in the strict sense of the word:

In the saliva: Its mechanical action in cleansing the mouth, diluting and dissolving the food, and lubricating the bolus for its passage into the stomach.

In the gastric juice: The antiseptic action of the HCL upon putrefactive and some pathogenic, organisms,—the acid being apparently the principal secretion and the pepsin more or less incidental; also the action of the acid in opening and closing the pyloric sphincter.

In the pancreatic juice: Its action on cellulose, as yet practically unknown, its reversible action on fats, and its influence on the absorption of fats.

In the bile: Its peculiar influence on all matter in the process of digestion shown by the negative results caused by its absence.

In the intestinal juice: The work of neutralizing the acids and forcibly breaking up the food substances that the maximum quantity may come under the influence of the other juices; also its possible action in releasing active trypsin from its mother ferment.

THE INDIVIDUAL ASSUMING PERSONAL CARE.

BY

J. WM. WATSON, A. M., M. D.,

S. Braintree, Mass.

We have brought our child up to the age of fifteen or sixteen years, about the average for entering high schools and academies to prepare for college. The individual has now attained an age when it is able to take care of itself especially if they have received the proper instructions from intelligent parents. At the age of puberty or even earlier every boy and girl should be told something of the secrets of life, the father to son and the mother to the daughter. Many a girl has received a severe nervous shock at the first sight of her menses because she knew nothing about them. With boy and girl children brought up together, put in the bath together, and later separated for bathing and dressing, curiosity will be satisfied, modesty will be inculcated, and morality advanced. The fathers and mothers are the proper sources for this knowledge, and not the playmate, the nurse, the hired man or hired girl. From these latter sources the knowledge is impious. Parents should have and always strive for the complete confidence of their children for in this way alone can they shield them from great nervous strain, a subsequent untold mental anguish, and, in many cases, disease.

Much of the ill health, many of the haggard faces, and the declining constitutions are due to secret sin, as self abuse, the secret use of tobacco and alcohol. The physical being suffers alike from each one, but thanks to the law the two latter curses are being removed from the reach of our youth.

For children and youths to thrive they must be in a healthy environment, must inherit strong constitutions, and many of our old customs must be relegated to the past. In this way alone can the great demon of disease be fought.

It is the object of this paper not to consider disease, but to endeavor to show how it may be prevented. Our attention needs to be called to apparently harmless yet pathological conditions. Thus far we have considered our child as placed in a healthy environment, and we believe him to have inherited a good constitution; there are, however, one or two congenital defects that are of supreme importance in their relation to good health. I refer to the Adenoir vegitation growing in the naso-pharynx. The baleful effects of this are now too well known, but it deserves passing notice. Remove the adenoids early as soon as detected, and you have prevented mouth-breathing with its pernicious results,—as, sinus trouble and especially many ear troubles leading on to a possible absolute deafness and then *mutism*. Many deformed chests with diminished expansion of the lungs together with many throat and pulmonary troubles are in this way prevented. The writer has often seen the partially atrophied remains of the pharyngeal tonsil, the early removal of which would no doubt have given the patient a much better chance in life.

The nose should also be examined for *spurs* for these are also to a great extent congenital. By their removal we arrive at the same results as in the removal of adenoids and even more. Spurs influence, if not cause, nasal asthma, paroxysmal sneezing, and hay fever. Severe cases of conjunctivitis, keratitis, corneal ulcer, and lachrymal troubles have been improved if not cured by their removal. Wright of Brooklyn has given a list of neuroses occasionally ascribed to lesions of the nasal cavities which deserve mention here as we believe they are influenced for good if not prevented by the removal of septal spurs. They are "esophageal spasm, hiccough, spasmodic croup, aphonia, asthenopia, strabismus, blepharospasm, migraine, chorea, epilepsy, vertigo, aprosexia, dyspepsia, exophthalmic goitre, acne, erythema of the skin, neurasthenia, and melancholia."

FIXING HABITS IN ADULT LIFE.

It is chiefly during childhood and youth that one's habits become fixed and settled. The life of a person is inherent and is governed chiefly by himself. With the simple principles of hygiene and good health once learned, the life that results from it will be so enjoyable that

there will be no desire to return to the old rusty methods of living. Every youth at the age of sixteen should know the subject of personal hygiene and be able to apply it practically. It is only a short step from this age to adult life where the benefit of these lessons will be derived every day.

First and foremost comes the Hygiene of the Digestive Tract. One of the most important topics for consideration here is the *teeth*. With poor teeth the process of digestion is soon impaired and stomach troubles naturally follow. It has been found that the form of diet has something to do with the preservation of the teeth. The teeth that are the least called upon for mastication are often the most delicate, while the strong and resisting teeth seem to come naturally to those who live upon coarse foods.

The Preservation of the Permanent Teeth resolves itself into a few simple principles, viz.: 1. The prevention of overcrowding. 2. The avoidance of chemical or mechanical injury to the teeth and gums. 3. The careful and frequent cleansing of all the exposed surfaces of the teeth preferably after each meal, and 4. The use of harmless antiseptics to prevent the long continuance of pathologic bacteria in the mouth. A tooth powder may be used once a day, while occasionally the exposed surfaces should be gone over with the tooth-powder and a piece of chisel-like wood of a hard and fine grain texture to remove the inequalities and add a smooth polish to the teeth. If this rule were applied early in the case of children's teeth the work of the dentists would be greatly restricted.

The importance of the teeth in digestion is not sufficiently recognized. Many chronic cases of indigestion arise from imperfect mastication due to faulty teeth. As a rule people do not chew their food long enough. The process of trituration should be carried on from twenty-five to thirty times. It is of primary importance to have decayed teeth filled, or if there are many missing they should be replaced by artificial ones. Otherwise medication and dietary regulation will be of little avail.

HEALTH COMMANDMENTS.

The following Health Commandments taken from the *Capital of Health* deserve recording here:

HEALTH COMMANDMENTS.

1. Thou shalt have no other food than at meal time.
2. Thou shalt not make unto thee any pies or put into the pastry the likeness of anything that is in the earth below. Thou shalt not fail to masticate thy food or digest it before more is taken, for the dyspepsia shall be visited upon the children to the third generation of them that eat otherwise, and long life and vigor upon those that live prudently and keep the laws of health.
3. Remember the bread (have it made from whole wheat) to bake it well, for he will not be kept sound that eateth his bread as dough.
4. Thou shalt not indulge sorrow or borrow anxiety in vain.
5. Six days thou shalt wash and keep thyself clean and the seventh day thou shalt take a great hot air bath, thou and thy wife, thy son and thy daughter, and thy maid-servant and the stranger that is within thy gates. For in six days man gormandizes his system and gathers filth and bacteria enough for disease; whereupon the earth has blessed the bath tub and sanctified it.
6. Remember thy sitting room and bed chamber to keep them well ventilated, that thy days may be long in the land.
7. Thou shalt not eat hot biscuit.
8. Thou shalt not eat thy meat fried.
9. Thou shalt not swallow thy food like a chicken, or highly spiced or just before work or just after it.
10. Hunger is the best sauce, fasting is the way it is prepared, i. e.:

    Eat not again till thou dost certain feel
    Thy stomach freed of all its previous meal;
    This mayst thou know by hunger's teasing call,
    The voice of nature, sweetest sign of all.

COMMENTS.

These rules are simple, yet within them is embodied a great deal of preventive medicine. With reference to the fourth it is no idle phrase to say that a contented mind, a willing disposition and a joyous nature give rise to a good digestion. Many derangements of digestion cannot be relieved unless this matter is taken into consideration; in other words, remorse, worry, over-responsibility, petulance, envy, jealousy, and other undesirable mental conditions give rise to such disturbances, both in primary nutrition and cellular metabolism, that good health is not to be continued. By suppressing these undesirable attributes, and by cultivating the good, we prevent unenviable mental characteristics and disturbances of the nervous system, and promote a good appetite and digestion, and enhance our nutrition in general.

The ninth of these commandments leads us to remark that it is unwise to take a hearty breakfast before functional activity is aroused sufficiently; nor is it well to allow the chief meal at midday, when the energy is likely to be taxed by work or study. It is better to wait until late in

the afternoon, when, after a little rest, the chief meal should be taken—and taken slowly, composedly, and cheerfully. After this may be spent a few hours of quiet enjoyment, or some light work as the evening chores of the farmer. It is evident at evening when the tissues demand food and when the physiologic appetite (hunger) has appeared that the digestion will the more easily perform its greatest work unincumbered by worries—muscular and mental activities that are likely to draw the blood away from the organs of digestion. Regularity at all events must be insisted upon.

The Treatment of Whooping Cough.—There are few diseases so slightly serious in themselves, in distinction from the gravity of their complications, which yield so little to therapeutic measures as does whooping cough. We think that every practitioner of large experience will agree with Carpenter, who contributes a paper to the *Proceedings of the Royal Society of Medicine* for January, 1909, when he states that the treatment of pertussis has been, in his experience, most unsatisfactory. He has used a host of remedies internally, and by local application, and found that they were all of little or no value. He has no faith in quinine, but little in the bromides and belladonna, and still less in the impregnation of the air of the room with carbolic acid vapor from suspended cloths. He points out, however, that there are a number of measures which can be undertaken by the physician which are of very material advantage to the child who may be affected by this pertinacious malady. The first of these is the recollection that lung complications are exceedingly frequent and nearly always serious; that inanition from frequent vomiting and loss of appetite is by no means uncommon; and again, that emotional disturbances such as rage and fear may produce severe paroxysms, and that any source of powerful irritation may do likewise, such as an overloaded stomach, exposure to cold, or an examination of one of the body orifices. In other words, careful and appropriate hygienic conditions with plenty of fresh air and a mild temperature are essential, and frequent feeding with small and easily digested meals is advisable—the child being at once refed when a sharp attack has caused it to empty its stomach. Carpenter believes that attention to the condition of the nasopharynx during the course of the disease is essential, and that Dobell's solution, or some other alkaline solution, used as a douche or gargle in children who are old enough to have it employed, is distinctly advantageous. He believes that the temperature of the room should be in the daytime as low as 60° and at night as low as 55° Fahr.; and finally he insists upon the importance of prophylaxis, since by this means other children are protected who, if they fall victims to the disease, will in a certain proportion of cases die from its effects. In other words, children with whooping cough should be isolated, and this is particularly essential where other children below the fifth year of age are in danger of exposure, since it is in this type of case that the pulmonary complications so frequently cause death. Again, Carpenter is one of those who believe that an attack of whooping cough distinctly predisposes to tuberculosis, and he asserts that in England an unusually large proportion of children die of tuberculosis subsequent to whooping cough. While this has not been our experience, at the same time it emphasizes the necessity of protecting children from both infections.—(*The Therapeutic Gazette,* June, 1909).

The Surgical Treatment of Epilepsy.—Carr believes that all cases of epilepsy due to any demonstrable focal lesion of the brain or skull should be operated upon. The author's own results have been very encouraging. He has operated on twenty cases, of which 25 per cent. have remained free from attacks at the end of three years. Leaving out four recent cases, his percentage of cures is 39 per cent. Nearly all obtained some benefit from the operation. The operation practiced by the author consists in the formation of an osteoplastic flap over the Rolandic area, incision of the dura and exploration for any abnormality. Edema is relieved by the insertion of one or more grooved directors beneath the dura, which is then drained by a small piece of soft rubber tubing. The author advocates a large flap and a wide inspection of the brain.—W. P. Carr, Washington, *New York Medical Journal.*

Vermont Medical Monthly.

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B. H. STONE, M. D., } .....*Editors.*

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EDITORIAL.

The annual meeting of the Vermont State Medical Society, held October 14th and 15th at White River Junction, was one of the most interesting and instructive meetings the society has held in years. On the program were an unusually large number of prominent physicians from outside the state who gave most interesting papers on subjects of vital interest to the general practitioner. They were not discussions of rare diseases or unusual conditions, which are of small interest to the busy physician, but were carefully prepared papers on conditions and complications which the general practitioner might see at any time. The papers read by members of the State Society were of a high order and altogether the papers and discussions were brim full of good sense and practical ideas.

The attendance of physicians was large and there was no lack of enthusiasm about the meeting, certainly it would be difficult to prepare a more practical program or to secure more practical and useful papers, and the physicians who were fortunate enough to be present were well repaid. No physician in the state could afford to miss this meeting.

It is a most useful thing for physicians to get together at meetings of this kind, the benefit they receive is not simply from the new ideas they get from the papers read, but it is also from the stimulation and inspiration which comes from touching elbows with the men who are actively associated with the progress of the medical world. A physician could not come in contact with the spirit of the meeting and go home without the feeling that he would strive to do better work than ever before.

Every physician in the state should be a member of the state society and should arrange, if possible, to attend the annual meeting. It will not only give him a pleasant vacation and a new store of useful knowledge, but we believe it will be a good financial investment as well. While people may complain if the family physician is away they will be ready to put confidence in a physician who is trying to keep up to date and the confidence of the people is a good stock in trade for any physician.

Another thing which will be of interest to the physicians is a proposition for the State Society to defend its members from malpractice suits and pay the cost of defending them but not the judgment if the case was lost and damages were awarded. This action has been taken by some State Societies and a committee was appointed to investigate and report at the next meeting on the advisability of the Vermont State Medical Society adopting it.

It would seem, then, that the advantages are mutual; a larger membership for the State Medical Society means strength and increased usefulness; while for the physician it means a source of useful knowledge, a pleasant acquaintance with other physicians, greater confidence of the people, and possibly a moral as well as financial protection from malpractice suits.

A very pleasant feature of the annual meeting of the Vermont State Society is the attendance of the ladies who certainly deserve this short respite from door-bells and telephones. Arrangements are made to entertain them in various ways, sightseeing, automobiling, etc., while the meeting is in session, and they all seem to enjoy this holiday very much.

The social function of the annual meeting is the banquet which is attended by the ladies as well as by the physicians. This function, in our judgment, should be made strictly a social function eliminating all shop-talk from the post-prandial exercises. The anniversary chairman should prepare himself carefully for the post-prandial exercises and should invite men to speak who can leave the serious things of medicine for a time and talk of the ridiculous and funny happenings which come in the practice of every physician—if he can see it that way.

It is only natural that physicians who are in daily attendance upon sickness and suffering, and the misery and anguish that these entail, should grow to be sober, that the fun and jollity of life should be crowded out. So much the more reason why some time should be given up to crowding out the pains and sorrows of others and filling up our stock of fun and pleasure.

We believe that the proper admixture of pleasantry on the part of the physician, with sympathy and seriousness, is as useful as is the proper amount of bicarbonate of soda with rhubarb.

We should like to see the banquet of the annual meeting of the State Society become such an enjoyable affair not only to the physicians but to the ladies in their households as well, that they would look forward to it with pleasant anticipations as a delightful social function,—an occasion which they always plan to attend.

Let us see what can be done for pleasurable entertainment at the banquet at the next annual meeting of the society.

We have just received a circular of information from the Vermont Sanatorium at Pittsford which we believe will be of interest to the physicians of the state as well as to all those interested in the crusade against tuberculosis.

The question has been asked repeatedly why there were no free beds, and it would naturally seem that as this is largely a disease of the poor people some arrangements should have been made for caring for people who could not raise the money to care for themselves. I think a word of explanation will make the situation clear. Senator Proctor gave money for the grounds (some three hundred acres), the buildings and their furnishings and equipment, and an endowment large enough so that the income will pay about one-half of the running expenses. This charity has been given to all alike reducing the cost to each patient from $13 or $14 per week, the cost of maintaining a patient at the Sanatorium, to $7.50 per week.

It is not impossible that even this expense cannot be met by some patients who would like and who should have sanatorium treatment, but this is to the few and if something of the splendid spirit of philanthropy which Senator Proctor has exhibited in giving this institution to the people of the state should awaken in the neighborhood of these few, it is not hard to imagine that means would be provided for their care at the Vermont Sanatorium.

There is certainly an opportunity for every one who is interested in ridding the world of this great white plague to do something. If you cannot build a sanatorium to care for them, perhaps you can contribute a little to the support of some poor unfortunate for a time in the sanatorium.

Vermont Sanatorium, Rutland County, Pittsford, Vt. On line of Rutland railroad. Room, board, medical attendance and nursing, $7.00 per week. Laundry, sputum cups and gauze, 50c per week. Bills payable two weeks in advance. Capacity forty patients.

Executive Committee.—F. C. Partridge, D. D. Burditt, Emily Dutton Proctor, C. S. Caverly, M. D., Redfield Proctor.

Dr. Walter C. Klotz, superintendent and medical director.

INFORMATION FOR APPLICANTS.

1. The Vermont Sanatorium is primarily intended for incipient cases of Pulmonary Tuberculosis. It believes that by the treatment of such cases it can do the greatest good to the greatest number.

So long, however, as there are vacancies it will gladly receive any case in the early stages, whether strictly incipient or not, which is likely to be benefited by sanatorium treatment.

2. The Sanatorium is the gift of the late Senator Proctor "for the benefit of the people of Vermont," and only such are admitted as patients.

3. It is a charitable institution, partly supported by an endowment also given by him; but it was not intended as a free charity, and patients are required to pay a part of their expense.

Its simple running expenses for the year 1908 were $13.59 for each patient, and including a proper interest and depreciation charge amounted to about $22.50 per week, of which amount one-third was paid by the patients and the other two-thirds was the result of the gift of Senator Proctor.

4. The Sanatorium finds itself taxed to its utmost in order to keep within its income, and it has only been able to do that with the generous help of a devoted friend. It regrets that it has no available fund out of which to pay any part of the $7.50 per week required to be paid by patients.

When patients are unable to pay this amount their relatives, friends or neighbors in the locality from which they come must undertake to pay it for them.

5. So long as there are vacancies applicants otherwise eligible will be received without reference to their financial condition.

When the number of applications exceeds the vacancies, preference will be given those who are least able to pay full price elsewhere.

6. Applications should be made on regular blanks obtained from the Sanatorium, to be filled out and signed by the family physician.

7. Applicants should send with their applications the names of two persons, well known and of high standing in their community, from whom inquiry can be made as to the applicant's character and reputation.

8. Applicants will then be referred to the nearest medical examiner whose report and that of the family physician will be acted upon by the Medical Director and Committee. From among the applications the most suitable applicants are selected. Those selected will be received at once if there are vacancies; otherwise they will be placed upon the waiting list.

9. On admission to the Sanatorium, patients are expected to conform cheerfully and promptly to the rules prescribed for their mutual welfare and protection. Otherwise they will be dismissed.

10. Any patient who fails to improve after a reasonable stay in the Sanatorium will be discharged.

11. It is our experience so far that for financial or home reasons the majority of patients who have begun to improve leave the Sanatorium before they can be discharged as cured. For the purpose of a permanent cure patients ought to stay until the medical director advises their discharge. Oct. 1st, 1909.

LOCAL MEDICAL EXAMINERS

Dr. A. B. Bisbee, Montpelier.
Dr. J. F. Blanchard, Newport.
Dr. W. N. Bryant, Ludlow.
Dr. C. S. Caverly, Rutland.
Dr. Alan Davidson, St. Albans.
Dr. W. N. Hazelton, Bellows Falls.
Dr. J. N. Jenne, Burlington.
Dr. F. T. Kidder, Woodstock.
Dr. A. I. Miller, Brattleboro.
Dr. D. C. Noble, Middlebury.
Dr. E. F. Norcross, Island Pond.
Dr. E. H. Ross, St. Johnsbury.
Dr. L. H. Ross, Bennington.
Dr. Archibald Valleau, Morrisville.

LETTER TO THE EDITORS.

Vermont Medical Monthly,
Burlington, Vt.

Dear Sirs:—

Was glad to note A. A. Warden's remarks in regard to the use of antidiphtheritic serum in the laryngitis of measles. In an epidemic of some 300 cases of measles about North Troy, Vt., during the months of January and February, 1909, laryngitis of a pronounced type accompanied 5% of all the cases, 2% responding to the milder remedial measures at our disposal while 3% were treated with antidiphtheritic serum with marked improvement from the first, except one case which proved fatal because of an idiosyncrasy to the horse serum, death occurring within eight hours of the first dose and five minutes after the second administration of the antidiphtheritic serum. Although cultures were taken from the throats of many of those patients the diphtheria bacilli could not be found but streptococci in abundance. All the above cases were free from membrane as far as could be ascertained. I sincerely believe that from my own observations the only treatment of real value in the laryngitis of measles of serious import is the early administration of antidiphtheritic serum.

A. M. Butterfield,
November 1st, 1909. North Troy, Vt.

PERSONAL.

Dr. A. A. Fenton, class of 1908, has severed his connection with the Massachusetts Hospital School at Canton, Mass., and expects soon to enter into private practice at Stoughton.

Dr. F. W. Guild, class of 1909, has entered the Hospital for Epileptics at Palmer, Mass., as one of the house surgeons.

Dr. Ralph Thomas, class 1909, has a position with the Canadian Pacific railroad with headquarters at Henderson, Me.

Dr. H. A. Schneider has taken the Massachusetts State Board examination and entered the Springfield (Mass.) Hospital as house surgeon.

Dr. Robert H. Richardson has opened an office at Lisbon, N. H.

Dr. O. W. Hodgdon has removed from Gorham, N. H., to Woodsville, N. H.

Dr. R. F. Oliver of Alstead, N. H., has purchased the practice of Dr. H. H. Dinsmore and moved to Enfield, N. H.

Dr. George H. Foss of Hinsdale, N. H., has purchased the practice of Dr. R. F. Oliver of Alstead, N. H.

Dr. H. H. Dinsmore has removed to Manchester, N. H., from Enfield, N. H.

Dr. Charles E. Hall of Greenville, N. H., died suddenly November 8, 1909. He was a graduate of Dartmouth. He was born in 1847.

Dr. H. L. Craft of North Fryeburg, Me., has purchased the practice of Dr. H. A. Moody of Sanbornville, N. H.

Dr. John M. Wheeler of New York, U. V. M., '02, and College of Medicine, '05, has recently been appointed assistant surgeon in the ophthalmic department of the New York Eye and Ear Infirmary.

F. M. Hollister, M. D., '09, B. S. '03, has entered the employ of the State of Massachusetts as resident physician at the state alms house at Tewksbury, Mass.

Dr. Michael Cray of Bellows Falls has opened an office at the home of W. C. Bushey, Brandon, Vt.

Dr. and Mrs. Hermon Bone are parents of a baby daughter, Harriet.

Dr. Henry S. Warren of Beacon Street, Boston, has been appointed official physician of the Boston Opera Company, announcement of the fact having been made yesterday by Director Henry Russell. Besides guarding the health of the grand opera artists, Dr. Warren will be in attendance at the opera house during the performances.

Dr. Samuel Patenaude, who graduated from the University of Vermont School of Medicine, class of 1884, has accepted a chair at the College of Physicians and Surgeons, Boston, and will lecture on Physiology during the coming winter.

Dr. Leander John Young, medical class of 1877, died suddenly of apoplexy in Haverhill, Mass., on the 27th of October. He had been a member of the school board, twice elected alderman and twice president of the board of aldermen. At the time of his death he was chairman of the board of health. Dr. Young had the respect and esteem of a host of friends in Haverhill. When the news of his death reached the city hall, the mayor ordered the flag at half mast, and in every quarter of the city men mourned the general loss.

NEWS ITEMS.

A native of Vermont is gaining fame in the aeronautic field in Switzerland. Dr. Dane Hurlburt, son of Mrs. W. R. Hurlburt of this town, a dentist by profession, who summers at Lucerne, Switzerland and winters at Cannes, France, has invented an aeroplane which is attracting considerable attention on the continent. The preliminary trials are being held at Lucerne and several flights have been made. His machine is a biplane mounted on three wheels. The planes are two metres apart, the upper advancing half its length, forward and over the lower plane. Both planes are curved laterally and longitudinally. The front half of the upper plane is made to tilt upwards to facilitate leaving the ground quickly. Midway between the two planes is a propeller shaft five and one-half metres long and carrying at each end two wooden blades two metres long. The motive power is a 25 horse power three cylinder motor. The steering is done by a wheel fixed to the end of an aluminum tube, the opposite end of which is attached to the classics with a universal joint, allowing vertical, lateral and rotary movement of the wheel. The horizontal rudder is placed at the rear end and is worked by rasing or lowering the steering wheel. The vertical rudder is under the middle back part of the upper plane and is manipulated by a lateral movement of the steering wheel. Dr. Hurlburt left Jericho 21 years ago. He graduated from a dental college in Philadelphia and then went abroad. He practices principally among royalty and has been so successful that he has acquired considerable wealth and is held in high esteem by his titled patrons.

"The President of the American Gynecological Society has appointed a committee to report at the next annual meeting in Washington, on the Present Status of Obstetrical Teaching in Europe and America, and to recommend improvements in the scope and character of teaching of Obstetrics in America. The committee consists of the Professors of Obstetrics in Columbia University, University of Pennsylvania, Harvard, Jefferson Medical College, Johns Hopkins University, Cornell University and the University of Chicago. Communications from anyone interested in the subject will be gladly received by the chairman of the committee, Dr. B. C. Hirst, 1821 Spruce St., Philadelphia, Pa."

It is with no little gratification that we learn that Dr. W. E. Fitch has purchased *Pediatrics* and will henceforth edit this well known publication. Dr. Fitch has long been connected with medical journalism as editor of *Gaillards Southern Medicine,* and he will bring to *Pediatrics* a ripe experience both as editor and publisher. He is a graceful as well as a brilliant writer, and has contributed extensively to medical literature. We understand that Dr. Fitch contemplates many changes in *Pediatrics* and with a staff of collaborators which includes many of the country's foremost pediatrists, this excellent journal is certain to achieve new success in its special field. Dr. Fitch is a true Southern gentleman and his name on the editorial page is ample assurance of the high and honorable plane on which *Pediatrics* will be conducted. If the sincere good wishes of the many friends of both *Pediatrics* and Dr. Fitch mean anything there can be no doubt of the good work that will be done in an exceedingly important branch of medicine.—From *American Medicine*, Oct., 1909.

Practicing physicians, representatives of the most important medical schools in this country, educators and social workers will take part in the conference arranged by the American academy of medicine on prevention of infant mortality, to be held in New Haven, November 11 and 12. The sessions will take place in Lampson hall of Yale University and the problem, with the possibilities of its solution, will be discussed from four points of view—medical, philanthropic, institutional and educational—each of which will be the subject of one session. Among the Boston men who will take part are Prof. C. E. A. Winslow, Dr. Henry I. Bowditch, Dr. Richard C. Cabot, Dr. John M. Connelly and Dr. Thomas M. Rotch.

The Elliot Hospital, Manchester, N. H., has recently been reorganized. Dr. George C. Wilkins has been placed at the head of the medical and surgical departments and Dr. C. B. Sturtevant is in charge of the maternity ward. This reorganization was brought about by the united resignation of the whole staff, with the exception of Dr. Geo. C. Wilkins, owing to the inability of the physicians and surgeons to agree with the actions of the matron who was retained by the trustees.

New York and New England Association of Railway Surgeons will hold its nineteenth annual

meeting at the Academy of Medicine, New York City, on November 16-17, 1909. A symposium will be presented on the "Causes of Railway Accidents Individualized." The names of prominent lay officials, attorneys and surgeons from railways all over the country appear on the program, which is very attractive and interesting. All interested in this line of work are cordially invited to attend.

MINUTES OF THE NINETY-SIXTH ANNUAL MEETING HELD AT WHITE RIVER JUNCTION, OCTOBER 14th AND 15th, 1909.

THURSDAY, OCTOBER 14TH.

The session of the Society was held in the Foresters' Hall and was called to order by the President, C. W. Peck of Brandon, at 9.45 a. m.

Rev. J. A. Scheuerle offered prayer. Mr. Raymond Trainor extended a cordial welcome in behalf of the town.

Dr. F. E. Clark of Burlington moved that as the records of the last annual meeting had been printed in the Transactions and distributed, that the Secretary's report be accepted and adopted as so printed.

Dr. M. P. Stanley gave the report of the Committee on Arrangements.

Dr. C. H. Beecher gave his report as Secretary and Dr. B. H. Stone submitted his report as Treasurer.

Dr. C. H. Beecher gave the report of the Publication Committee.

The Secretary read the report of the Committee on Legislation.

The Secretary read the report of the Committee on Medical Education.

Dr. C. H. Beecher read an obituary in memory of Charles Augustus Browne, M. D., written by Dr. E. M. Pond of Rutland.

Dr. Higgins, delegate from the Massachusetts State Medical Society was introduced and made appropriate remarks.

Adjourned at 10.15.

AFTERNOON SESSION.

Dr. L. C. Holcombe of Milton moved that as Dr. Gifford was absent during the morning session, that he be allowed to present his paper before the regular afternoon program was entered into. This motion was seconded by Dr. H. D. Holton of Brattleboro and was carried.

Dr. J. P. Gifford of Randolph then gave a paper on "Inflammation." This subject was discussed by Dr. F. E. Clark of Burlington.

Dr. S. W. Hammond of Rutland gave the Vice-President's annual address, entitled, "Sleep, Sleeplessness and Hypnotics." Discussion was entered into by Dr. J. N. Jenne. Burlington, and Dr. C. W. Strobell, Rutland, and Dr. E. R. Campbell, Bellows Falls.

Dr. J. H. Woodward of New York City then gave an address on The Clinical Relationship of Ophthalmology to General Medicine and General Surgery. The discussion of this subject was opened by Dr. M. L. Chandler of Barre; and was followed by Dr. M. C. Twitchell of Burlington, Dr. G. H. Gorham of Bellows Falls, Dr. J. H. Blodgett of Bellows Falls, Dr. H. D. Holton of Brattleboro, Dr. L. A. Russlow of Randolph. The discussion was closed by Dr. J. H. Woodward.

Dr. Lyman Allen of Burlington gave a paper on "Ileus, Mechanical and Dynamic." Dr. Tinkham of Burlington, opened the discussion on this subject and the same was closed by Dr. Allen.

Dr. R. C. Cabot gave an address on "Some Recent Advances in Our Knowledge of the Blood." Dr. C. S. Caverly of Rutland, and Dr. F. K. Jackson of Burlington discussed this subject.

Adjourned at 5 p. m.

Dr. D. D. Grout spoke regarding the legal form of the certificate which is issued by consulting physicians in committing persons to the insane hospital.

Dr. F. E. Clark of Burlington then asked that Dr. W. W. Townsend of Rutland be allowed to read his paper. This motion was voted upon and carried and Dr. W. W. Townsend presented a paper on Venereal Disease. This subject was discussed by Dr. E. R. Campbell of Bellows Falls, Dr. N. F. Blodgett, Dr. H. C. Tinkham and the discussion was closed by Dr. Townsend.

Dr. W. L. Wasson of Waterbury gave a paper on Paranoia which was discussed by Dr. D. D. Grout, Waterbury, Dr. W. H. Lane, Brattleboro, and Dr. H. C. Tinkham of Burlington.

Dr. Parker Syms of New York City gave an address on Prostatic Obstruction; Indications for Operations with Description of a Method of Operating. This paper was discussed by Dr. J. B. Wheeler of Burlington, Dr. W. W. Townsend of Rutland, Dr. Gile, Hanover, Dr. E. R. Campbell of Bellows Falls, Dr. Wm. Lindsay, Montpelier, and the discussion was closed by Dr. Syms.

Dr. E. A. Colton of Montpelier presented a paper on Some Observations on Laboratory Diagnosis, and Dr. W. H. Lane asked that his paper, Hydrophobia and the Pasteur Method of Immunization, be read by title only.

Adjourned at 12 o'clock.

EVENING SESSION.

Called to order by the Vice-President, Dr. S. W. Hammond, at 8 p. m.

The President, C. W. Peck of Brandon, gave the annual address, the subject being Auto-Intoxication. Discussion opened by Dr. L. C. Holcombe, Milton, and Dr. R. C. Cabot of Boston.

Adjourned at 9 p. m.

The Annual Banquet took place at the Junction House, about 100 being present, including the ladies. After the banquet Dr. C. W. Peck, President, introduced Dr. Fred Hutchinson as the anniversary chairman who took charge of the Post-Prandial exercises.

SECOND DAY—FRIDAY, OCTOBER 15TH.

Called to order at 9.12 a. m. The report of the House of Delegates was presented by the Clerk, Dr. C. F. Dalton of Burlington.

VERMONT STATE MEDICAL SOCIETY MEETING OF THE HOUSE OF DELEGATES, 1909.

The annual meeting of the House of Delegates was called to order October 14, 1909, at 5.25 p. m. by the President, Dr. M. L. Chandler of Barre.

Roll-call by the Secretary showed the following delegates present:

ADDISON COUNTY.

H. L. Williamson, R. W. Prentise.

BENNINGTON COUNTY.

L. E. Hemenway, L. H. Ross.

CALEDONIA COUNTY.

J. M. Allen, W. J. Aldrich.

CHITTENDEN COUNTY.

H. C. Tinkham, C. F. Dalton, W. A. Lyman, J. N. Jenne, L. C. Holcombe, J. B. Wheeler, M. C. Twitchell.

The Chair then called for reports of committees.

The Committee on securing a room for the records of the Society reported as follows:

To the House of Delegates.

Gentlemen:—Your committee appointed a year ago to report on room for records beg leave to submit the following:

We had a talk with Dr. H. C. Tinkham, Dean of the College of Medicine, and append his reply as part of the report. Your committee recommends that the offer of the room spoken of in the report be accepted and used for storing the records and other property of the Society which is now scattered.

Signed,
B. H. Stone and C. H. Beecher.
C. H. B.

October 12, 1909.

Dr. C. H. Beecher, Secretary,
Burlington, Vt.

My dear Doctor:—

In answer to your inquiry, in regard to securing a room in the medical college building for the use of the Vermont State Medical Society for storing records and other property of the Society, will say that there is a room in the building which the University of Vermont College of Medicine will be very glad to place at the disposal of the State Society for this purpose. I am,

Very truly yours,
H. C. Tinkham.

This report was accepted and adopted.

Dr. Jenne moved that the secretary of the State Society be instructed to get together records, books and documents from former secretaries and place them in the room at the medical college.

This motion was seconded and carried.

The Committee on Remuneration of Quarantined Families, reported by Dr. G. H. Gorham no progress.

On motion the matter was recommitted to the same committee with instructions to report next year.

Amendments to Articles II and V of the Constitution were adopted, these as amended to read as follows:

Article II of Constitution.

Each affiliating County Society in the State shall be entitled to and elect one delegate for every ten active members and one for any additional fraction of more than half that number to represent it at the annual meeting of the State society.

At the first annual meeting one-half, or as near as may be, of said delegates shall be elected to serve two years and the remainder for one year. At each subsequent annual meeting a sufficient number of delegates shall be elected to complete the quota of that county.

An alternate for each delegate shall be elected at the same time.

The above named delegates shall collectively constitute the House of Delegates of the Vermont State Medical Society, and shall conduct the general business of the annual meeting and elect the officers. They shall elect their own officers and may adopt such By-Laws and Regulations for their own procedure as are not in conflict with the provisions of this Constitution and By-Laws.

No member of the House of Delegates shall be eligible to the offices in this Society of President, Vice-President, Secretary, Treasurer or Auditor.

Article V of Constitution.

The active membership of this Society shall consist of the active members of the affiliating County Societies, whose dues to the State Society are paid on or before the last day of each fiscal year.

The next business being the choosing of the place of next annual meeting, Dr. G. C. Berkley, in the name of the Franklin County Society, invited the State Society to hold its next annual meeting in St. Albans.

Dr. O. G. Stickney moved that this invitation be accepted, and the motion was seconded and carried.

Dr. A. E. Hyatt spoke on the matter of protecting members of the State Society in malpractice suits.

The subject was discussed by Drs. Berkley, Caverly, Tinkham, Jenne and Gorham.

Dr. Berkley moved that this matter be received as a proposed change in the Constitution and that a committee be appointed by the chair to take the subject under consideration and report next year.

This motion was seconded and carried and the chair appointed as such committee, Drs. Hyatt, Jenne and Lindsay.

Dr. L. H. Ross asked if anything had been done toward admitting members of other schools of medicine to the State Society.

The subject provoked considerable discussion in which the following members took part: Drs. Gorham, J. M. Allen, Hyatt, W. A. Lyman, A. C. Bailey, Berkley, Twitchell, L. H. Ross, O. G. Stickney and Tinkham.

Dr. Lyman moved that this society appoint a committee of three to investigate the matter of admitting members of the schools of medicine and to report at the next meeting.

This motion being seconded and carried the following committee was elected: Drs. L. H. Ross, W. A. Lyman and H. C. Tinkham.

The House then proceeded to the election of officers with the following result:

President, Dr. W. L. Havens of Chester.
Vice-President, Dr. E. H. Ross of St. Johnsbury.
Secretary, Dr. C. H. Beecher of Burlington.
Treasurer, Dr. B. H. Stone of Burlington.
Auditor, Dr. A. M. Norton of Bristol.

At this point it was moved that a nominating committee be appointed to name the remaining officers and committees of the society.

After the Committees were appointed the meeting adjourned to 8.30 o'clock the following morning.

The adjourned meeting of the House of Delegates was called to order at 8.45 a. m., October 15, by the President.

The Nominating Committee reported as follows:

COMMITTEES.

Executive—W. L. Havens, C. H. Beecher, G. C. Berkley.

Publication—C. H. Beecher, F. E. Farmer, David Marvin.

Legislative—G. H. Gorham, Lyman Allen, A. B. Bisbee.

Necrology—A. E. Houle, J. W. Jackon, H. H. Lee.

Medical Education—H. H. Swift for three years to succeed S. S. Eddy.

Anniversary Chairman—S. W. Hammond.

DELEGATES.

Medical Society of State of New York—L. H. Ross, M. R. Crain.

Maine Medical Association—M. P. Stanley, S. E. Darling.

New Hampshire—T. F. Gartland, D. R. Brown.

Massachusetts—E. R. Campbell, Lyman Allen.

Connecticut—L. E. Hemenway, E. A. Hyatt.

Rhode Island—W. H. Lane, J. P. Gifford.

White River Valley Medical Association—G. H. Gorham, J. D. Brewster.

White Mountain Medical Association—E. T. Brown, A. O. Morton.

Connecticut River Valley Association—W. T. Slayton, F. E. Farmer.

Dartmouth Medical College—H. C. Tinkham, M. C. Twitchell.

University of Vermont College of Medicine—J. M. Allen, F. C. Phelps.

OFFICERS OF HOUSE OF DELEGATES FOR ANNUAL MEETING, OCTOBER 13 AND 14, 1910.

President.....A. J. Valleau
1st Vice-President.....William Lindsay
2nd Vice-President.....M. R. Crain
Secretary.....A. O. Morton

It was moved by Dr. Tinkham that the report be accepted and adopted, and the motion was carried.

Dr. Lindsay presented the following resolution which was carried.

Resolved that the offices of treasurer and secretary in the constituent county societies should be held by the same member.

The meeting then adjourned.

C. F. Dalton, Secretary.

MEMBERS FOR YEAR ENDING OCT. 1, 1909.

ADDISON COUNTY.

MEMBERS.

E. G. Blaisdell .....Bridport
F. T. Briggs .....Bristol
O. M. Bump .....Salisbury
G. P. Collins .....N. Ferrisburg
P. L. Dorey .....Middlebury
M. H. Eddy .....Middlebury
S. S. Eddy .....Middlebury
G. F. Edmunds .....Bristol
C. W. Howard .....Shoreham
E. H. Martin .....Middlebury
A. M. Norton .....Bristol
L. F. A. Ovellett .....Orwell
F. C. Phelps .....Vergennes
E. Pilon .....Vergennes
Mary M. Platt .....Shoreham
R. W. Prentice .....E. Middlebury
F. E. Read .....Salisbury
G. C. Russell .....Lincoln
E. A. Tobin .....Bristol
H. L. Townsend .....Bridport
V. W. Waterman .....Vergennes
E. S. Weston .....New Haven
W. J. White .....Middlebury
G. F. B. Willard .....Vergennes
H. L. Williamson .....Bristol

BENNINGTON COUNTY.

MEMBERS.

C. W. Bartlett .....Bennington
C. S. Buchanan .....Bennington
A. S. M. Chisholm .....Bennington
E. B. Daley .....Bennington
F. E. Dean .....South Shaftsbury
D. A. Gleason .....North Bennington
F. W. Goodall .....Bennington
S. K. Gray .....East Arlington
L. H. Hemenway .....Manchester
L. E. Hemenway .....Manchester
A. E. Houle .....Bennington
F. J. Hurley .....Bennington
L. M. Kelley .....Manchester Centre
F. C. Little .....Dorset
C. W. Phillips .....Arlington
L. H. Ross .....Bennington
E. V. Trull .....Manchester
J. B. Woodhull .....North Bennington
G. V. Wager .....Bennington

CALEDONIA COUNTY.

MEMBERS.

W. J. Aldrich .....St. Johnsbury
J. M. Allen .....St. Johnsbury
W. C. Blake .....Lyndon
J. C. Breitling .....Lunenburgh
D. R. Brown .....Lyndonville
A. A. Cheney .....Lyndonville
C. A. Cramton .....St. Johnsbury
E. M. Crane .....Hardwick
S. E. Darling .....Hardwick
E. E. Dickerman .....West Burke
H. A. Elliott .....Barnet
C. Fairbanks .....St. Johnsbury
F. E. Farmer .....St. Johnsbury
W. B. Fitch .....St. Johnsbury
J. M. Gibson .....McIndoes Falls
L. W. Hubbard .....Lyndon
R. T. Johnson .....West Concord
H. H. Lee .....Wells River
A. J. Mackey .....Peacham
H. H. Miltimore .....St. Johnsbury
A. C. McDowell .....Lyndonville
R. M. McSweeney .....St. Johnsbury
C. A. Prevost .....St. Johnsbury

W. N. Ricker ..... Wells River
E. H. Ross ..... St. Johnsbury
T. R. Stiles ..... St. Johnsbury
H. A. Suitor ..... West Burke
A. E. Wakefield ..... St. Johnsbury
F. Welch ..... St. Johnsbury
C. B. Wilson ..... Bradford

CHITTENDEN COUNTY.

MEMBERS.

B. D. Adams ..... Burlington
L. Allen ..... Burlington
B. J. Andrews ..... Burlington
J. A. Archambault ..... Essex Junction
F. J. Arnold ..... Burlington
F. W. Baylies ..... Burlington
C. H. Beecher ..... Burlington
W. D. Berry ..... Burlington
L. M. Bingham ..... Burlington
G. H. Branch ..... Grand Isle
T. S. Brown ..... Burlington
E. T. Brown ..... Burlington
E. H. Buttles ..... Burlington
W. G. Church ..... Burlington
F. E. Clark ..... Burlington
J. M. Clarke ..... Burlington
I. S. Coburn ..... Milton
*H. A. Crandall ..... Burlington
C. F. Dalton ..... Burlington
J. H. Dodds ..... Burlington
W. H. Englesby ..... Burlington
R. C. Flagg ..... Westford
S. L. Goodrich ..... Burlington
D. D. Grout ..... Waterbury
D. C. Hawley ..... Burlington
E. A. Heath ..... Winooski
A. S. C. Hill ..... Winooski
L. C. Holcombe ..... Milton
H. D. Hopkins ..... Jericho Center
Sue E. Howard ..... Burlington
G. B. Hurlburd ..... Jericho
F. K. Jackson ..... Burlington
H. N. Jackson ..... Burlington
J. N. Jenne ..... Burlington
C. K. Johnson ..... Middlesex
R. W. Johnson ..... Burlington
Henry Ladd ..... Essex Center
E. S. Lane ..... N. Ferrisburgh
G. E. Latour ..... Burlington
F. C. Lewis ..... Burlington
H. E. Lewis ..... New York
W. A. Lyman ..... Burlington
David Marvin ..... Essex Junction
S. E. Maynard ..... Burlington
L. B. Morrison ..... Burlington
P. H. McMahon ..... Burlington
P. E. McSweeney ..... Burlington
W. S. Nay ..... Underhill
D. J. Nolan ..... Burlington
C. A. Pease ..... Burlington
C. N. Perkins ..... Burlington
L. N. Piette ..... Winooski
W. R. Prime ..... Burlington
F. A. Rich ..... Burlington
F. M. Rogers ..... Alburg
J. J. Ross ..... Richmond
L. B. Rowe ..... Orwell

*Deceased.

G. M. Sabin ..... Burlington
H. H. Seeley ..... Richmond
D. A. Shea ..... Burlington
L. P. Sprague ..... Chateaugay, N. Y.
F. R. Stoddard ..... Shelburne
B. H. Stone ..... Burlington
J. D. Tanner ..... Burlington
W. T. Tilley ..... Richmond
H. C. Tinkham ..... Burlington
M. C. Twitchell ..... Burlington
H. R. Watkins ..... Burlington
J. B. Wheeler ..... Burlington
H. L. Wilder ..... Burlington

FRANKLIN COUNTY.

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C. G. Abell ..... Enosburgh Falls
L. Abernethy ..... Bakersfield
C. E. Allen ..... Swanton
G. C. Berkley ..... St. Albans
H. A. Bogue ..... Richford
F. A. Brennan ..... Georgia
E. M. Brown ..... Sheldon
N. P. Carey ..... East Fairfield
G. S. Clark ..... Montgomery Center
A. L. Cross ..... Swanton
A. J. Darrah ..... Enosburgh Falls
A. Davidson ..... St. Albans
John Gibson ..... St. Albans
H. M. Hallock ..... St. Albans
F. S. Hutchinson ..... Enosburgh Falls
W. W. Hutchinson ..... Enosburgh Falls
E. A. Hyatt ..... St. Albans
C. U. Johnson ..... West Berkshire
H. H. Johnson ..... Franklin
E. R. Lape ..... Swanton
E. P. Lunderville ..... Richford
F. W. Mason ..... St. Albans Bay
E. J. Melville ..... St. Albans
A. O. Morton ..... St. Albans
F. W. Norris ..... Swanton
S. W. Paige ..... St. Albans
J. R. Patton ..... Fairfield
A. D. Patton ..... E. Fairfield
R. N. Pelton ..... Richford
J. G. Perrault ..... St. Albans
C. A. Pratt ..... Enosburgh Falls
C. S. Scofield ..... Richford
Grace Sherwood ..... St. Albans
A. A. Skeels ..... St. Albans
W. S. Stevens ..... St. Albans
W. J. Upton ..... St. Albans
E. L. Washburn ..... East Berkshire
R. E. Welch ..... Franklin

LAMOILLE COUNTY.

MEMBERS.

H. W. Barrows ..... Stowe
G. L. Bates ..... Morrisville
C. W. Bates ..... Morrisville
L. P. Holcomb ..... Johnson
W. M. Johnstone ..... Morrisville
C. S. Leach ..... Hyde Park
G. B. Maurice ..... Waterville
J. C. Morgan ..... Stowe

R. G. Prentiss ..... Johnson
G. C. Rublee ..... Wolcott
W. T. Slayton ..... Morrisville
S. G. Start ..... Cambridge
J. M. Stevens ..... Hyde Park
A. J. Valleau ..... Morrisville

ORLEANS COUNTY.

MEMBERS.

G. F. Adams ..... West Derby
F. N. Aldrich ..... Derby Center
J. F. Blanchard ..... Newport
A. M. Butterfield ..... North Troy
C. L. Erwin ..... Newport Center
R. A. Gatchell ..... West Charleston
A. M. Goddard ..... Albany
O. B. Gould ..... Newport
F. S. Gray ..... Troy
F. R. Hastings ..... Barton
F. C. Kinney ..... Greensboro
B. D. Longe ..... Newport
E. M. Nichols ..... Barton
J. L. Potter ..... E. Charleston
R. M. Wells ..... Barton Landing
J. F. Wright ..... Barton Landing
J. C. Colby ..... Stanstead, P. Q.
C. C. Waller ..... N. Troy
R. F. Willard ..... Coventry

RUTLAND COUNTY.

MEMBERS.

E. L. Averill ..... Brandon
O. C. Baker ..... Brandon
C. F. Ball ..... Rutland
A. H. Bellerose ..... Rutland
C. H. Bonney ..... Ludlow
W. N. Bryant ..... Ludlow
C. S. Caverly ..... Rutland
E. R. Clark ..... Castleton
O. F. Clough ..... Poultney
B. D. Colby ..... Sudbury
T. A. Cootey ..... Rutland
M. R. Crain ..... Rutland
N. J. Delahanty ..... Rutland
J. J. Derven ..... Poultney
J. S. Eastwood ..... Brandon
E. D. Ellis ..... Poultney
J. W. Estabrook ..... Brandon
G. H. Fox ..... Rutland
H. A. Francisco ..... Rutland
J. L. Gammons ..... Poultney
O. J. Gilchrist ..... Rutland
A. J. Greenwood ..... Poultney
C. E. Griffin ..... Fair Haven
W. H. Grinnell ..... Danby
T. H. Hack ..... Proctor
T. Hagan ..... Pittsford
J. M. Hamilton ..... Rutland
S. W. Hammond ..... Rutland
J. D. Hanrahan ..... Rutland
L. A. Heidel ..... Rutland
J. S. Horner ..... West Pawlet
A. K. Kinne ..... Middletown Springs
J. Knowlson ..... Poultney
R. Lape ..... Fair Haven
H. L. Manchester ..... Pawlet
M. J. Mangan ..... Rutland
G. G. Marshall ..... Wallingford
H. L. Martyn ..... Cuttingsville
J. H. Miller ..... Wallingford
R. H. Miner ..... Windsor
W. H. Morehouse ..... Fair Haven
J. P. McDowell ..... Middletown Springs
J. P. Newton ..... Benson
G. D. Parkhurst ..... Fair Haven
C. W. Peck ..... Brandon
C. C. Perry ..... West Rutland
W. S. Pomeroy ..... Danby
E. M. Pond ..... Rutland
E. G. Roberts ..... Fair Haven
C. B. Ross ..... West Rutland
G. Rustedt ..... Rutland
H. R. Ryan ..... Rutland
R. E. Smith ..... Rutland
Wm. Stickney ..... Rutland
C. W. Strobell ..... Rutland
H. H. Swift ..... Pittsford
J. E. Thomson ..... Rutland
W. W. Townsend ..... Rutland
J. L. Welch ..... Proctor
E. O. Whipple ..... Danby
J. H. Woodward ..... New York City

WASHINGTON COUNTY.

MEMBERS.

F. C. Angell ..... Randolph
A. C. Bailey ..... Randolph
E. H. Bailey ..... Graniteville
G. S. Bidwell ..... Waterbury
A. B. Bisbee ..... Montpelier
H. D. Bone ..... Waterbury
L. W. Burbank ..... Cabot
C. H. Burr ..... Montpelier
C. F. Camp ..... Barre
H. S. Carver ..... Marshfield
C. E. Chandler ..... Montpelier
M. L. Chandler ..... Barre
E. A. Colton ..... Montpelier
J. E. Dewey ..... Montpelier
P. Duffy ..... Barre
E. E. Ellis ..... Brookfield
J. P. Gifford ..... Randolph
V. C. Goodrich ..... Barre
J. R. Grimes ..... Montpelier
L. W. Hanson ..... Barre
G. L. T. Hayes ..... Graniteville
H. H. Hayward ..... Tunbridge
W. J. Howard ..... Roxbury
C. E. Hunt ..... Montpelier
J. W. Jackson ..... Barre
H. Janes ..... Waterbury
J. H. Judkins ..... Northfield
W. E. Lazell ..... Barre
W. Lindsay ..... Montpelier
A. T. Marshall ..... Chelsea
M. E. McGuire ..... Montpelier
L. A. Newcomb ..... Montpelier
H. L. Newell ..... East Randolph
G. H. Parmenter ..... Montpelier
W. D. Reid ..... Barre
R. W. Rowland ..... East Corinth
C. E. Rumrill ..... Randolph
L. A. Russlow ..... Randolph
E. G. Sprague ..... Barre
E. A. Stanley ..... Waterbury

C. L. Stewart ..... Randolph
F. E. Steele ..... Waterbury
O. G. Stickney ..... Barre
W. J. Tindall ..... Montpelier
W. D. Turner ..... Worcester
W. L. Wasson ..... Waterbury
E. B. Watson ..... Williamstown
J. H. Winch ..... Northfield

WINDHAM COUNTY.

MEMBERS.

C. R. Aldrich ..... Brattleboro
E. S. Allbee ..... Bellows Falls
G. R. Anderson ..... Brattleboro
J. H. Blodgett ..... Bellows Falls
A. Boland ..... South Londonderry
E. S. Bowen ..... Brattleboro
W. D. Bowen ..... Saxtons River
G. D. Buxton ..... Proctorsville
E. R. Campbell ..... Bellows Falls
I. R. Doane ..... Springfield
G. S. Foster ..... Putney
G. T. Gale ..... West Townshend
G. T. Gartland ..... Bellows Falls
F. L. Gilbert ..... Grafton
L. H. Gillette ..... Springfield
G. H. Gorham ..... Bellows Falls
J. W. Gregg ..... Brattleboro
H. P. Greene ..... Brattleboro
F. Hamilton ..... Brattleboro
W. L. Havens ..... Chester Depot
E. C. Haviland ..... Brattleboro
W. F. Hazelton ..... Bellows Falls
J. S. Hill ..... Bellows Falls
H. D. Holton ..... Brattleboro
T. R. Hoyt ..... Brattleboro
G. B. Hunter ..... Brattleboro
W. H. Lane ..... Brattleboro
S. E. Lawton ..... Brattleboro
J. F. McGinity ..... Ludlow
A. I. Miller ..... Brattleboro
A. L. Miner ..... Bellows Falls
W. R. Noyes ..... Brattleboro
J. F. O'Brien ..... Bellows Falls
F. H. O'Connor ..... Brattleboro
F. L. Osgood ..... Saxtons River
F. L. Osgood ..... Townshend
L. T. Page ..... Wilmington
L. W. Parady ..... Jacksonville
C. S. Pratt ..... Brattleboro
T. Rice ..... Townshend
J. T. Rudden ..... Bellows Falls
J. S. Stevenson ..... Chester
W. N. Thompson ..... Hartford, Conn.
H. Tucker ..... Brattleboro
H. L. Waterman ..... Brattleboro
P. P. White ..... Williamsville

WINDSOR COUNTY.

MEMBERS.

L. B. Allen ..... Post Mills
C. H. Bates ..... Ludlow
E. A. Barrows ..... Hartford
M. F. Blodgett ..... Corinth
J. D. Brewster ..... Windsor
*C. A. Brown ..... Ludlow

*Deceased.

C. M. Campbell ..... Rochester
B. A. Chapman ..... Springfield
G. N. Cobb ..... White River Junction
G. R. Davis ..... Bethel
D. S. Drake ..... White River Junction
A. C. Eastman ..... Woodstock
F. A. Edmunds ..... Pittsfield
T. F. Gartland ..... White River Junction
W. S. Gustin ..... Union Village
C. H. Hazen ..... Springfield
G. Holbrook ..... Woodstock
H. C. Jackson ..... Woodstock
J. C. Kenney ..... Sharon
F. T. Kidder ..... Woodstock
C. W. Locke ..... Springfield
C. E. Merriam ..... Rochester
V. M. Rogers ..... Quechee
F. C. Morgan ..... Claremont, N. H.
F. C. Russell ..... Newbury
O. W. Sherwin ..... Woodstock
M. P. Stanley ..... White River Junction
C. E. Ward ..... Hartland
H. E. Woodbury ..... Ludlow

HONORARY MEMBERS.

Conn, G. P. ..... Concord, N. H., 1869
Watson, H. P. ..... Manchester, N. H., 1887
Ramson, J. B. ..... Dannemora, N. Y., 1889
Field, A. E. ..... Barre, Vt., 1890
Douglas, O. B. ..... Concord, N. H., 1891
Crothers, T. D. ..... Hartford, Conn., 1892
Kellogg, D. S. ..... Plattsburgh, N. Y., 1892
Lyon, E. M. ..... Plattsburgh, N. Y., 1892
Irish, J. C. ..... Lowell, Mass., 1894
Shattuck, Frederick C. ..... Boston, Mass., 1894
Porter, William H. ..... New York City, 1895
Gordon, S. C. ..... Portland, Me., 1895
Marcy, Henry O. ..... Boston, Mass., 1896
Mabon, William ..... Ogdensburgh, N. Y., 1897
Stearns, Henry P. ..... Hartford, Conn., 1899
Richardson, Maurice H. ..... Boston, Mass., 1899
Lockhart, F. A. L. ..... Montreal, 1899
Cook, Geo. H. ..... Natick, Mass., 1901
Weeks, S. H. ..... Portland, Me., 1901
Wiggin, F. H. ..... New York City, 1901
Gordonier, H. C. ..... Troy, N. Y., 1902
Crowell, H. L. ..... Kansas City, Mo., 1903
Munro, John C. ..... Boston, Mass., 1904
Emerson, Francis P. ..... Boston, Mass., 1904
Scudder, Chas. L. ..... Boston, Mass., 1905
LeFevre, Egbert ..... New York City, 1906
Arnold, H. D. ..... Boston, Mass., 1906
Burrell, Herbert ..... Boston, Mass., 1907
Gile, J. M. ..... Hanover, N. H., 1907
Pisek, G. R. ..... New York City, 1908
Haynes, I. S. ..... New York City, 1908
Scripture, E. W. ..... New York City, 1908

LIST OF PRESIDENTS SINCE 1851.

Goldsmith, M. ..... Rutland, 1851
Palmer, B. W. ..... Woodstock, 1852
Thayer, S. W., Jr. ..... Northfield, 1853
Warner, E. D. ..... New Haven, 1854
Perkins, Joseph ..... Castleton, 1855
Carpenter, Walter ..... Randolph, 1856
Stevens, H. F. ..... St. Albans, 1857
Allen, C. L. ..... Middlebury, 1858

Knights, A. E.	Springfield,	1859
Morgan, B. F.	Bennington,	1860
Woodward, A. T.	Brandon,	1861
Stiles, J. N.	Windsor,	1862
Bradford, P. D.	Northfield,	1863
Fassett, O. F.	St. Albans,	1864
McCollom, William	Woodstock,	1865
Warner, E. D.	New Haven,	1866
Frost, C. P.	Brattleboro,	1867
Richmond, J. S.	Woodstock,	1868
Janes, Henry	Waterbury,	1869
Putnam, S.	Montpelier,	1870
Upham, E. F.	West Randolph,	1871
Holton, H. D.	Brattleboro,	1872
Butler, L. C.	Essex,	1873
Butler, L. C.	Essex,	1874
Butler, L. C.	Essex,	1875
Dunsmore, George	St. Albans,	1876
Chandler, C. M.	Montpelier,	1877
Bullard, G. B.	St. Johnsbury,	1878
Thayer, S. W.	Burlington,	1879
Jackson, J. Henry	Barre,	1880
Sherwin, O. W.	Woodstock,	1881
Bingham, L. M.	Burlington,	1882
Clark, S. S.	St. Albans,	1883
Draper, Joseph	Brattleboro,	1884
Kemp, D. G.	Montpelier,	1885
Brooks, S. T.	St. Johnsbury,	1886
Campbell, Edw. R.	Bellows Falls,	1887
Clarke, J. M.	Burlington,	1888
Brown, H. S.	St. Johnsbury,	1889
Jenne, J. N.	St. Albans,	1890
Caverly, C. S.	Rutland,	1891
Wilder, H. R.	Swanton,	1892
Bisbee, A. B.	Montpelier,	1893
Linsley, J. H.	Burlington,	1894
Branch, C. F.	Newport,	1895
Stoddard, F. R.	Shelburne,	1896
Rogers, Lyman	Bennington,	1897
Lawton, S. E.	Brattleboro,	1898
Crain, M. R.	Rutland,	1899
Huntington, W. D.	Rochester,	1900
Wheeler, J. B.	Burlington,	1901
Pond, E. M.	Rutland,	1902
Bryant, W. N.	Ludlow,	1903
McSweeney, P. E.	Burlington,	1904
Chandler, M. L.	Barre,	1905
Hawley, D. C.	Burlington,	1906
Gorham, G. H.	Bellows Falls,	1907
Peck, C. W.	Brandon,	1908

The Treatment of Scabies or Common Itch.—Bunch states, in the *Lancet* of April 3, 1909, that when he sees a general eruption, scratched or pustular, and when the patient complains of itching, he always looks for burrows, whoever the patient may be. If he can demonstrate an acarus there can be no question of the diagnosis, and he does not consider it within his province to inquire from whom the acarus came. It is a fact, however, that one variety of mange in the dog is due to an acarus which may infect man, and persons who have much to do with dogs may become infected in this way. The face is always affected in these cases, whereas ordinary scabies does not cause any lesions of the face in adults.

The treatment of scabies aims essentially at opening up the burrows, destroying the acari, and allaying the itching. The best way is to make the patient soak in a hot bath for a quarter of an hour, then scrub himself with soft soap, using a nail-brush for the hands and feet. After washing off the soap the sulphur ointment of the Pharmacopœia is rubbed all over the skin, except the face, and left on for three days. The patient then has a starch bath to allay the irritation and applies boric ointment to any patches of dermatitis which may be present. It is important not to use any sulphur after the third day, otherwise an unpleasant degree of eczema or artificial dematitis may be set up which will cause great itching. In place of sulphur, B-naphthol in 20 percent ointment may be rubbed in after the bath and again on the three following days. It has the advantage that it is odorless and cleaner than sulphur, but it is not so efficacious. The same may be said of balsam of Peru, and the writer prefers to order sulphur. In any case, the clothes must be disinfected and the patient kept under observation for ten days to make sure that all ova have been destroyed.—*Therapeutic Gazette*, June, 1909.

Stools of Infants.—It is, says J. Zahorsky (*Pediatrics*, December, 1908), gradually becoming recognized that the so-called curds in the stools of infants are not casein coagula, but soaps. To differentiate between these the writer employs an iodin stain. The mass of feces should be cut in half in order to expose the inner structure. Tincture of iodin is then poured on the masses in a test-tube or dish. After ten minutes it is thoroughly washed with alcohol, which almost completely decolorizes the mass composed of soaps, but has little effect on the brown-colored casein.—*American Journal of Obstetrics.*

DEAD, BUT IN PERIL.

Smith, who had always been a "tough one," had just died. The physician is met coming from the house, by Brown, who asks, "Doctor, how is Smith? Is he out of danger?" Physician: "No. He is dead, poor fellow; but he is far from being out of danger, I fear."

An Exceptional Cough Syrup



EACH FLUIDOUNCE CONTAINS:

Tinct. Euphorbia Pilulifera, 120 minims.
Syrup Wild Lettuce, 120 minims.
Tinct. Cocillana, 40 minims.
Syrup Squill Compound, 24 minims.
Cascarin (P. D. & Co.), 8 grains.
Heroin hydrochloride, 8-24 grain.
Menthol, 8-100 grain.

DOSE: ½ TO 1 FLUIDRACHM.

Syrup Cocillana Compound

is an uncommon cough syrup, as a perusal of the formula will show, and one of marked efficiency. It is of especial value in acute bronchitis, with unusual irritation, and in chronic bronchitis when secretions are scanty and hard to expel. It is pleasant to the taste. It is attractive in appearance. It is mildly laxative.

Syrup Cocillana Compound was devised especially to meet the needs of the prescription writer. Its name does not suggest its therapeutic uses. It is not known to the public as a "cough syrup."

Supplied in pint and 5-pint bottles.

Antitoxin of the Highest Type



Physicians who administer our

Antidiphtheric Serum and Antidiphtheric Globulins

may do so with full assurance of their purity, potency and uniformity. Our antitoxins are prepared with scrupulous care. They are rigidly tested. They are supplied in the most satisfactory syringe-containers ever offered to the medical profession.

Our **Antidiphtheric Serum** and **Antidiphtheric Globulins** are marketed in the same style of package and at the same price per given number of antitoxic units. The **Globulins,** a highly concentrated product, occupies a relatively smaller container than the older serum.

500, 1000, 2000, 3000, 4000 and 5000 units.

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Laboratories: Detroit, Mich., U.S.A.; Walkerville, Ont.; Hounslow, Eng.

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THERAPEUTIC NOTES.

There is a large class of post-nasal, pharyngeal, and throat affections due just now, and we do not know of any appliances quite so well adapted for treating cases of this description as the Nebulizers and Compressed Air Apparatus put out by the Globe Manufacturing Co., of the famed "Health town" of Battle Creek, Mich. Medicated vapor applied "on the spot" is the keynote of the Globe treatments—even to applying the vapor to the middle ear when necessary—under proper pressure, and with vibratory impulses designed to manipulate the mucous membrane of the remotest parts of the air tract. With convenient air supply—apparatus for which this company also supplies—this method is held by a large aud growing number of physicians to be very satisfactory—in fact, unapproached by any other non-surgical method. Their catalogues and formularies supplied on request.

Gastro-Intestinal Anemia.—From a strictly scientific standpoint, the heading of this clinical note is no doubt incorrect, or at least faulty, as there can scarcely be said to be a true anemia, due to gastro-intestinal disease, that can be morphologically differentiated from the anemia which is secondary to other devitalizing disorders. At the same time, it is uudoubtedly true that gastro-enteric disease, even the common functional dyspepsia, if sufficiently long continued, is productive of an anemic blood condition. It is a well recognized fact that auto-toxemia, resulting from the constitutional absorption of the products of intestinal putrefaction, is not infrequently followed by a generally devitalized condition of the circulatiug fluid. In such cases, while attention should primarily be directed to the gastro-enteric condition, the anemia should also be treated, in order to induce recovery in the shortest possible period of time. Care should be taken to avoid the administration of drugs that tend to derange the digestion. For this reason, the inorganic metallic salts of iron should not be given, as they are extremely likely to prove irritant, astringent and constipating. Pepto-Mangan (Gude) may be given, in such cases, with every assurance that the necessary iron and manganese will be promptly absorbed without irritating the gastric mucosa or inducing constipation. Children, especially, take it readily, because of its distinct palatability.

Something You Should Keep in Mind.—Here it is! In fully nine-tenths of the cases you are called upon to treat (and especially is this true in acute disease) there's something wrong with the alimentary tract which demands correction. The first indication is for a quickly-acting, non-griping and effective "clean out." Once the irritating and poisonous fecal waste is removed and the alimentary canal maintained in healthy condition (and here the W-A Intestinal Antiseptic comes into play) the patient begins to improve and in the absence of crippling disease or severe specific infection, goes rapidly on to recovery. For this "clean out" there is no remedy more effective than Abbott's Saline Laxative—or Salithia when there is rheumatism or the uric-acid diathesis. If the bowel is badly clogged commence with a few doses of Calomel, Podophyllin and Bilein Comp., Abbott. Doctor, try this plan. It "works" and will please you.

To Remove Silver Nitrate Stains from the Skin. —*The Therapeutische Monatsschrift* recommends: Bichloride of mercury and ammonium chloride, each 10 grammes; water, 80 grammes. The stain is said to disappear immediately.—*Practical Therapeutics.*

Carbuncles.—The following is certainly a reliable therapeutic fact. If fresh peroxide of hydrogen be injected freely and thoroughly into any carbuncle, once each day, it will certainly destroy it. Each time the carbuncle is thus cleansed, a compress of absorbent cotton, saturated with a fifty per cent solution of the peroxide, should be laid over the carbuncle covered with oiled silk, and retained with a light bandange. I do not find that any other treatment than this is required.—*Marsh in Ellingwood's Therapeutist.*

A Painless Mercurial Injection.—Lambking's formula for a painless mercurial injection is given in the Journal de Médecine de Paris for June 5, 1909, as follows:

℞ Metallic mercury (by weight)....5iiss;
Wood creosote 5iiss;
Camphoric acid 5iiss;
Palmitin, enough to make.....ʒiii.

Or the following formula may be employed:

℞ Calomel .....gr. lxxv;
Wood creosote 5iiss;
Camphoric acid 5iiss;
Palmitin, enough to make .....ʒiii.

M. These creams when intimately combined form painless preparations for hypodermic injection and they melt at the body temperature, or say 98.6° F.

The administration of potassium iodide after operating for anal fistula in syphilitic and even in tuberculous subjects will be often found of benefit to stimulate healing.—*Int. Jour. of Surgery.*

An excellent solution for a wet dressing is that of Ochsner consisting of 5 per cent. carbolic acid solution, one part; saturated solution of boric acid, six parts; alcohol (95 per cent.) one part.—*American Medicine.*

Pains in the Knee in Hip-Joint Disease.—Dr. H. Heineke (*Müch. Med. Wochensch.*, March 30, 1909) reports two cases in which, after contusions of the knee, with effusion into the joint, violent pain persisted after return to a normal condition, and subsequently (one and one-half years after the injury in the first case and three years later in the second) severe disease of the hip-joint was found. The patients seemed to be unaware of the latter, and attributed their suffering to the knee, although this was found to be perfectly normal.—*Int. Jour. of Surgery.*

Accuracy in Therapeutics.—The efficiency of a medicinal agent cannot be determined by mere physical appearance. Two specimens of fluid extract of digitalis, for example, may look precisely alike. One,

upon administration, may exhibit a wholly satisfactory therapeutic action; the other, given under precisely the same conditions, may prove to be practically inert. Lack of uniformity in the crude drug, and absence on the other hand of an adequate method of assay, account for the singular discrepancy. And this serves to show the necessity of standardized remedial agents if we would proceed in the treatment of disease with any assurance of success. It emphasizes, too, the futility of trusting to chance that the extract of a crude drug contains what the practitioner supposes it to contain and what it ought to contain.

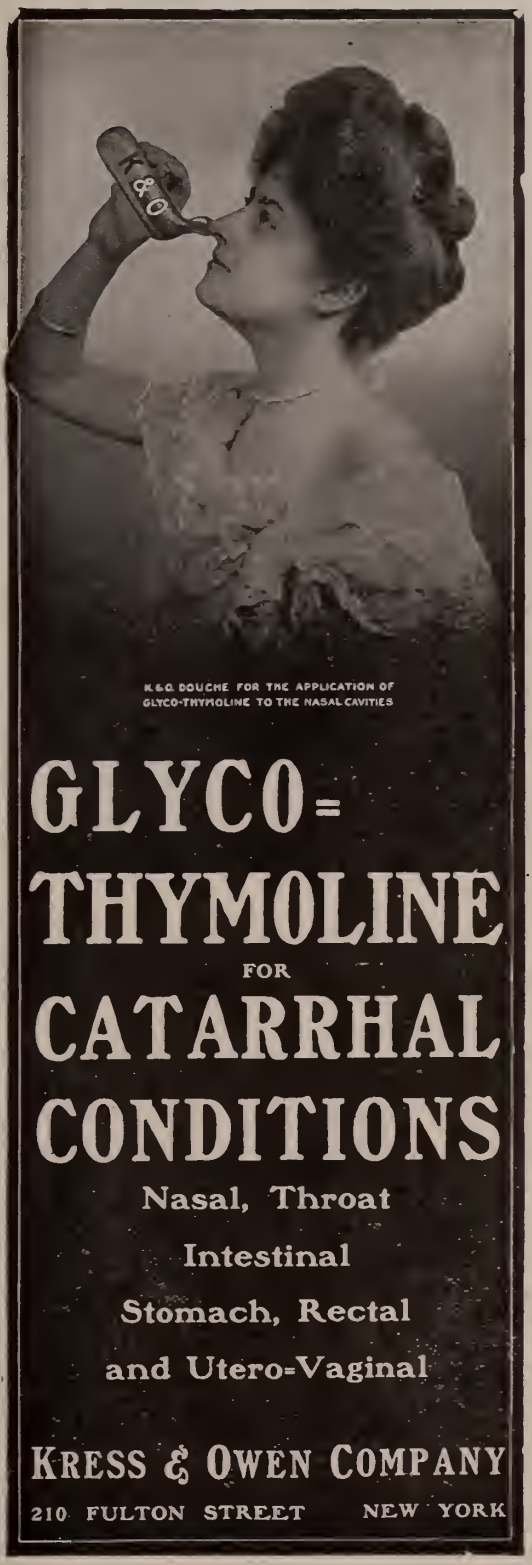
It is a healthy sign that manufacturers of medicines —some of them at least—are giving serious thought to this matter of standardization. It is cause for gratulation that the largest producers of medicinal products in the world consider the subject of sufficient importance to make it the basis of an expensive promotion campaign. We have in mind a series of announcements which have been published from time to time in practically the entire medical press of the country, the latest appearing under the significant title, "Who is the Keeper of Your Reputation?" In their plea for greater accuracy in therapeutics Messrs. Parke, Davis & Co. are doing vastly more than to exploit the products of their manufacture—they are rendering a lasting service to medicine.

It is to the physician's own interest, and to the interests of his patients, to prescribe standardized preparations; to provide himself with the most trustworthy agents that the market offers. The best is none too good for his purpose.

Drinking Among Children—By the Editor. —From *Scientific Temperance Journal.* Some controversy was aroused a few weeks ago by the statements of Dr. T. Alexander McNicholl, of New York, that of 30,000 school children in that city whose conditions he had studied, 58 per cent. drink some form of alcoholic liquors occasionally or regularly. Newspapers misquoted the statements and punctured with ridicule the misquotation, and the investigator was subjected not only to misrepresentation but to abuse for his statements which he declared were supported by data in his possession.

Without attempting to enter this particular controversy, it is worth while noticing that there is nothing impossible in the actual statement made by Dr. McNicholl in view of the cosmopolitan character of the population of New York.

Elsewhere in our columns we quote the findings of an Hungarian Government Commission which discovered that "there are hardly any schools in Hungary in which there is a pupil who is a total abstainer." A part of the pupils, of course, take alcohol only under exceptional circumstances such as "Sundays, holidays, baptisms, weddings, funerals, the vintage and



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harvest season"—a fairly abundant list of opportunities for using drink, the result of which is that it is not at all uncommon for pupils to come to school in an intoxicated condition, while the results on health, mental ability, scholarship, and character were marked.

In Vienna, Bayer found in one school of 591 pupils more than 60 per cent. who used alcoholic drinks, more or less regularly; 50 per cent. drank wine or beer from one to three times daily, and scholarship declined in proportion to the frequency of use. Another investigation showed that of 88,895 school boys in Vienna, 32.2 per cent. used beer; 18.3 per cent. wine; 4.1 per cent. spirits. Among 92,152 girls the corresponding percentages were 33.2 per cent. used beer, 12.1 per cent. wine; 3.2 per cent. spirits.[1]

At Munich, Hecker[2] found that of 4,662 school children 55.3 per cent. were regular users of some alcoholic drinks.

In Gerau, of 1,069 school children, there were only 12 who had not had some form of alcoholic beverage.

Walther and Schau, teachers at Ulm found only 21 out of 3,699 children who had not used alcoholic drinks; 84 per cent. already took spirits.

In Dresden, H. Heinicke found in one school no child who did not drink occasionally. Many children in Wurtburg brought a bottle of wine to school.

Statistics by a school official (Ziegler) in Pforzheim (1906-7)[3] concerning four successive Sundays showed that of about 6,300 school children, from 34 to 60 per cent. drank wine or beer. The average for the children of the first grade of school reached the astounding figure of nearly 50 per cent.

In a paper read at the International Congress on Alcoholism in 1901, a government inspector was quoted as saying that in Bohemia "the flax workers, especially the women and children, use hot whiskey in which they put bread or cooked potatoes to help them keep warm. Soup flavored with spirits is given also to nursing infants to keep them asleep so that the mothers can work undisturbed."

Granting that they are not general statistics covering entire cities or countries, they are gathered from a sufficiently wide number of sources to indicate that the habit of giving children alcoholic beverages is fairly common in the nationalities named—German, Hungarian, Bohemian, Austrian. It is well known that the custom is very general in some parts of France.

In 1900 the United States had 145,000 foreign-born Hungarians, 276,000 Austrians, 157,000 Bohemians and 2,669,164 Germans.

New York City alone had 439,921 of these four peoples who had come here from the land of their birth. This takes no account of those born here of foreign parentage. The number is probably much greater now owing to the enormous immigration of the years since 1900. Can we logically assume that on arriving at Ellis Island, they promptly or wholly abandoned the custom, where it existed, of giving their children beer or other alcoholic drink?

There can be no doubt of the peril which

[1] Alcohol and the Child, an address by Prof. Wilhelm Wengandt, Ph. D., M. D., University of Wurtzburg. Statistics from Gerau Ulm, and Dresden quoted from same authority.

[2] Jahrbuch fur Kinderkeilkunde und physische Erziehg, 1906.

[3] Die Enthalsamkeit, May, 1908.

such a custom, if perpetuated here, constitutes in the social and racial life of America. Nor need one look wholly to the foreign born for evidence of danger in this respect. The wine or cider of rural communities used in the homes by parents is in far too many cases given more or less to the children and lays the foundation of a deteriorating habit and appetite. The writer has been reliably informed of instances where cider is given children by parents "because it is good for them." In several schools in a New England state, which perhaps is not exceeded in the percentage of native born population, school children have been found who drink both cider and beer, and high school boys were found who were habitual drinkers.

All scientific students are agreed as to the injury done to childhood by the beverage use of alcohol. If, as some keen social observers believe, much of our social misery is due to ignorance, it is high time plainly to teach not only these children in the schools the dangers of drink, but to place a clear warning before parents. Placards, posters, leaflets are being used to teach the homes how to care properly for the babies, how to avoid tuberculosis. A great work awaits doing in teaching the parents why under no circumstances should they give alcohol to their children, and why for the sake of their own health and the well being of their children they should themselves abstain.

Suit in a Charity Case.—An Ashland physician has been sued by a patient for the sum of $17,000 for alleged malpractice. It is an interesting incident in the suit that the patient was a charity case, and did not pay anything for the service. Physicians and surgeons, however, recognize that even such a case as this is entitled to the best that they can give, and thousands of cases are treated in a year with no consideration of any fee or reward. Sometimes the patient seeks to capitalize his ills at the expense of the charitable doctor. This patient had been unsuccessfully treated for hip injury in Los Angeles, and at the time the Ashland physician took hold of the case, was suffering excruciatingly. Several doctors were called in, hospital fees were incurred, and all these were paid by the attending physician, who is now being sued. None will claim that patients who suffer from real malpractice should be stopped from recovery for damages. But it will strike everybody as being pretty hard lines where a physician or surgeon exercises his best ability, calls in other practitioners in consultation, and pays hospital fees for the patient without any other reward than a consciousness of having done his duty to a suffering mortal, that he should then be sued for his kindness. But, then, human nature is just about the same in this country and others, in this century and in former times, and this incident merely illustrates some of the trials that beset the practitioner in passing through life.—*Medical Sentinel.*



Trades Unionism Among Nurses.—It would seem, from certain publications received at this office, as though there was a concerted action being taken among some of the physicians in Pennsylvania against trades unionism and other

evils in the ranks of trained nurses of the Keystone state. So prominent a man as Dr. Henry Beates, Jr., who is president of the Pennsylvania State Board of Medical Examiners, has published a brochure in which the methods of trained nurses and their aspirations in his state, are very severely criticised. Especially are his remarks addressed in opposition to the recent effort to have the legislature of his state enact a law to license nurses, and providing that no other persons should be allowed to act as nurses, for a remuneration, except those who have been graduated from a training school where practical and theoretical instruction is given in medical and surgical work. The physicians of the state appear to be very much opposed to any such measure. They do not believe that the nurse should be so educated that she will naturally feel that she knows as much about the medical principles involved in the case as the attending physician. They believe that obedience to the physician's directions, and not independent action of their own, is required of the attending nurse, and such a training school as that indicated above, would not be the best thing for the patient.

Dr. W. A. Newman Dorland, of the University of Pennsylvania, also publishes a pamphlet on the same subject, and in his address especial reference is made to the tendency of the nurses in his state, to exact a minimum fee of $25 per week, whether the patient being served is rich or poor. He insists that some inexperienced nurses are not worth that much, and yet the trades unionism which prevails seeks to secure that amount per week, regardless of experience. The matter has gone so far as to call forth a largely attended public meeting in Philadelphia for the purpose of discussing the subject, and resolutions were adopted, which have been scattered throughout the land. It would certainly seem that so far as nurses have a tendency to interfere with the prerogatives of the physician; and so far as they tend to organize and introduce the principle of a minimum salary, regardless of their experience and ability, the movement in Philadelphia will spread to other states, and must accomplish what it seeks.—*Medical Sentinel.*

Infantile Splenic Anemia.—(*Lancet,* Jan., 1909). W. K. Hunter gives extensive clinical notes on ten cases and presents much tabulated material which must be consulted in the original. He refers to three clinical types of the disease, the chief point of distinction between them being the degree of leucocytosis that may happen to be present. In the first type the blood picture is much the same as in splenic anemia of the adult, that is, the white cells are diminished instead of being increased in number and there is most often a lymphocytosis. In the second type the leucopenia is replaced by a moderate leucocytosis, fourteen thousand to twenty thousand per cu. mm: The proportion of the various white cells is little altered, although some myelocytes are to be found in the stained films. This type is more severe than the preceding, and includes most of the cases described under the name of Splenic Anemia of Infants. There is still a third type described (von Jaksch) as pseudoleukemic anemia of infants. Here there is a greater leucocytosis even up to one hundred thousand per cu. mm. Differential counts almost always show a definite proportion of marrow cells and generally there is a greater variety of leucocytes than in normal blood. Most often the lymphocyte predominates, but occasionally the polynuclears. Examination of the red cells in all three types shows nothing distinctive. The causes of the condition are the same as those for ordinary secondary anemia without splenic enlargement. Recovery may occur in the infantile type of the disease.

INDIGESTION OF THE FACE.

"Dear me, what a sour look that woman has! What ails her?"

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"What's that?"

"Skin food didn't agree with it."—*Memphis Medical Monthly.*

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A PRACTICAL QUESTION.

G. R. Glenn, Superintendent of Public Instruction of the State of Georgia, tells this story:

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"Boss, I want to ax you ef er nigger et chickens kin you look in him an' see chicken?"

"Why, yes, Ephraim," said Mr. Glenn.

"Well, boss, I want ter ax you one mo' question. Kin you look in dat nigger an' tell whar dat chicken cum from?"

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"Take this away!" he commanded. "What does it mean, anyway; tell me that?"

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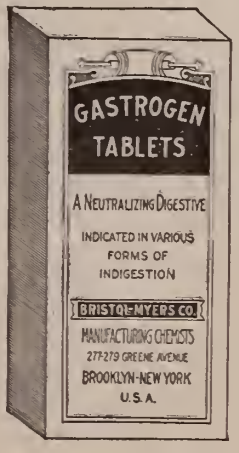
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'bout food not bein' what hit was claimed ter be, de cook des puts one chicken fedder in each one of dem pies to show ter folks dat day's recebin' de genwine article, sah!"—*Success.*

European Doctors and Nurses.—Dr. Alfred D. Kohn, member of the Chicago Board of Education, is reported as having expressed himself quite emphatically on the merits of European doctors and nurses as compared with those of our own country. They are long on pathology over there and short on treatment; they care much for diagnosis and little for patient. They know dietetics and cook food better, but have less judgment and take less care in feeding the patient. Rest, quiet and matters of that sort are given little attention. They know how to charge. Their surgeons are as scientific and skilful as ours, but we do the work better. Their anesthetics are not as good as ours and they are not as cleanly. Except in England, nursing there is a grim joke; they haven't the class of nurses we get here, and in many cases only rely on men orderlies.

We doff our beaver to Dr. Kohn. Despite the Teutonic appearance of his cognomen he is evidently open-eyed and not ashamed of his country, or afraid to speak his belief.—*American Journal Clinical Medicine.*

Medicine in China.—Medical missionaries in China say that the natives will bear without flinching a degree of pain from which the stoutest of us would shrink in terror. A woman in Shao-wu, afflicted with an ulcer of the leg, was treated by a native "doctor." One day he came to the mission hospital to show the physician in charge a "string" which he calmly announced he had pulled from the wound. It was the sciatic nerve! To people suffering from such barbarous methods, and to whom anæsthetics are unknown, the merciful methods of foreign doctors in the mission hospitals seem like miracles.—*N. Y. Medical Journal.*

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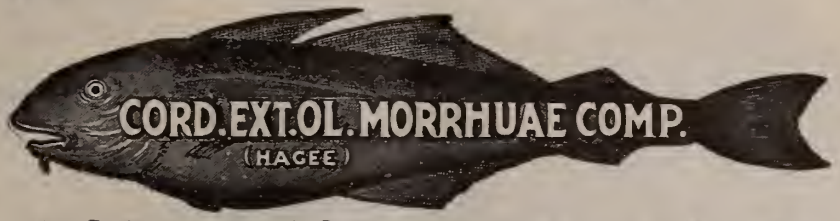
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THE QUESTIONER.

By Carl Werner.

I called the boy to my knee one day
And said: "You're just past four;
Will you laugh in that same lighthearted way
When you're turned, say, thirty more?"
Then I thought of a past I'd fain erase—
More clouded skies than blue—
And I anxiously peered in his upturned face
For it seemed to say;
"Did you?"

I touched my lips to his tiny own
And I said to the boy: "Heigh, ho!
Those lips are as sweet as the hay, new-mown:
Will you keep them always so?"
Then back from those years came a rakish song—
With a ribald jest or two—
And I gazed at the child who knew no wrong,
And I thought he asked:
"Did you?"

I looked in his eyes, big, brown and clear,
And I cried: "Oh, boy of mine!"
Will you keep them true in the after-year?
Will you leave no heart to pine?
Then out of the past came another's eyes—
Sad eyes of tear-dimmed blue—
Did he know they were not his mother's eyes?
For he answered me:
"Did you?"

—From *Scribner's Magazine* for November.

That poverty is a friend of consumption is demonstrated by some recent German statistics, which show that of 10,000 well-to-do persons, 40 annually die of consumption; of the same number only moderately well-to-do, 66; of the same number really poor, 77; and of paupers, 97. According to John Burns, the famous English labor leader, 90 per cent of the consumptives in London receive charitable relief in their homes.

Vermont Medical Monthly.

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ORIGINAL ARTICLES.

A DEFENCE OF SANITY.*

BY

FREDERICK S. LEE,
Columbia University.

Ever since the reign of the illustrious Emperor Augustus, when Horace taught that all men are mad, there has been a widespread belief in the truth of the Roman poet's assertion. Yet few of us are wholly mad, and we shall not go far astray if we agree with a modern essayist that "every man has a sane spot somewhere." The actual degree of insanity from which any one of us suffers is a matter difficult of determination, since it can be made known only through the verdict of one's peers, who themselves in turn are demented. One can arrive at a correct judgment in an individual case only by comparing it with that which the most intelligent of the multitude, after long study and deep knowledge, have established as the normal. Any pronounced diversion from the teachings of the masters, unless there exist logical and credible grounds for diversion, stamps its possessor as one who is, in so far, without the pale of those who know.

But why should any one be without the pale? There is a widespread idea that the greatest evil in the world is ignorance, that education is its antidote, and that, with learning made easy, sanity and temperance and all things of good report will be the lot of mankind. While this represents obviously an extreme view, it is probably applicable to the majority of men in their relation to the majority of things. But biologists are agreed that what a man is is the result of the action of two forces, heredity and the environment, nature and nurture. While an educational environment may conduce to sanity, a man may, on the other hand, be handicapped by an ancestral perversion, which all the education in the world can never overcome. But the difficulty is further increased by the fact that the normal is ever changing, and, indeed, must ever change if the world is to progress. It follows therefore that the insanity of today becomes the sanity of tomorrow, if we are clever enough to bring the world around to our way of thinking. Stevenson said: "Give me the young man who has brains enough to make a fool of himself"—but it was the brains and not the fool that Stevenson really wanted.

In meditating much on the question as to the sphere in which human abnormality is most pronounced, I have come to believe that it is in beliefs and practises relating to the human body in health and in disease. And since the study of the human body in health and in disease is to be your life work, and since it will be your fate to come into intimate contact with many of these beliefs and practises, it has seemed to me fitting to devote the hour at my disposal to a consideration of some of them.

Before you leave these halls to practise your profession you will come to know that there has grown up in the course of many centuries an enormous mass of knowledge, for the most part well-ordered and rational, which constitutes the medical science and art of today. It is the contribution of many superior minds of all the world's ages. Some of its truths were known to the early Greeks, and from them down to the modern laboratory and clinic it has received a continual stream of accessions. But it is not accession only that has taken place, for to a large extent there has occurred a process of selection, a rejection and replacement of what has proved unsuitable, so that the medicine of today represents the survival of the fittest. Though the sifting process continually goes on and though everywhere there are points in dispute and unsolved problems, there yet exists the great fund of accepted medical knowledge, constituting a standard, according to which individual opinions concerning the body in health and disease are to be judged. It is convenient to classify this mass of knowledge, and so we recognize the specific divisions, not altogether sharply separated, such as anatomy, physiology, hygiene, bacteriology, pharmacology, therapeutics, surgery and neurology. In so far as one believes in the accepted principles of any one of these divisions he is pronounced by his fellows therein sane; in so far as he rejects them without adequate reason, he is looked at askance and with suspicion. And so it is with regard to specific matters within any

*An address delivered at the opening of the fifty-seventh year of the College of Medicine of the University of Vermont, Burlington, November 3, 1909.

one of these divisions. Obviously the amount of knowledge that the layman possesses of these various branches of medicine can be only small. The man on the street is pitifully ignorant of his own body in health and disease, and even more ignorant of the rise and present stage of development of the science and art of medicine. Largely because of this ignorance he is prone to grotesque opinions and statements. Such opinions are not, however, confined to the man on the street. A famous university professor whose studies lie rather in the sphere of a dead language than of a living science, said recently to a colleague, in explanation of a slight attack of faintness, that the fumes of his gall had passed upward into his brain! The students of the first medical year now before me will soon learn to appreciate the strangeness of this physiological conception.

Most persons are eccentric to a greater or less extent on the subject of diet. Their notions of food, what they can eat and what they can drink, are often derived from a very crude kind of illogical deduction from their experience. To pounce upon a single unhappy food as the cause of an attack of indigestion after a feast, and pledge oneself to abstinence from it in the future, when there might be a source of causes, not only constitutes wilful defiance of the laws of logic, but it is never certain of insuring immunity from a subsequent similar attack of gastric disturbance. No one is free from imagined dietetic peculiarities, and there are differences only of degree between successive individuals in the dietetic series from the omnivore at one end to the vegetarian, the fruitarian, the nutarian and the raw-food advocate at the other. Of all these extremists perhaps the advocate of raw food is the most mad, for his sober contention is that if food be eaten in the uncooked state, its protoplasm on entering the body will at once be added, by a sort of accretion process, to the stock of protoplasm of the host! Such a simple, clear, attractive generalization has but one fault, that it fails to take into consideration the physiological phenomena of digestion, absorption and assimilation. While some persons are thus quarreling as to the kind of food that human beings should eat, others are discussing the quantity of food. There is undoubted soundness in Chittenden's main conclusion, supported by carefully conducted experiments, that most persons customarily take too much food, and his influence will undoubtedly conduce to ultimate good in inaugurating greater temperance in eating. Probably to most persons in the past, where food has been abundant, eating has been in large part a matter of sensuous indulgence. Greater sanity in this respect is surely being inaugurated, just as it has already been inaugurated in the matter of drinking alcoholic liquors.

Diet, however, constitutes but one sphere in which we all have our unreasoning personal hobbies. The character of one's domestic remedies for slight physical ills is also an indication of one's mental trend. The soothing syrup, hot drops, composition and catnip tea of our well-intentioned grandmothers, and the various messes, for the most part harmless, which were employed for the annual spring house-cleaning supposed to be required by the blood, were succeeded by the long list of proprietary or "patent" nostrums, many of which, it is now known, owed their popularity to their unsuspected content in alcohol; and these in turn are giving way to the more rationally prepared drugs of the pharmacopœia. But some persons like to think that the day of the drug has passed, and the drug-giving doctor is often held up to ridicule. Such persons, and happily they are few, are seemingly ignorant of the fact that at no time has the science of the drug ever been so exact as now; the physiological actions of drugs were never so well known; the methods of their preparation and standardization were never so perfect; and their therapeutic use was never so effective; while the discovery of new drugs has greatly widened the range of their applicability in disease.

The subject of drugs leads us naturally to consider other methods of healing. In these amazing days of rapid living, when we rush over the earth's surface or through the air above or the waters beneath, when we joyfully jaunt to the icy ends of the earth's axis, or speak our messages straight into the wireless ether, confident of their destination, we are prone to become impatient with long-existing things—we are ever seeking the novel. With the seemingly slow progress of the difficult science and art of healing disease it is not strange that unorthodox methods of healing should have come into much favor. Medicine is not really making as slow an advance as often appears to the layman. The past quarter of a century has witnessed the rise of an entirely new and powerful medical science bacteriology, and a series of brilliant onslaughts,

which are certain of ultimate success, against that great enemy of mankind, the infectious diseases. As instances of what has been accomplished already one needs only to recall here the remarkable decrease in the death rate of diphtheria and tuberculosis. The success in surgery during the same period has been scarcely less brilliant. Internal medicine, fortified by great physiological and pathological discoveries, is rapidly forging to the front; while there is no considerable class of diseases in the knowledge and treatment of which progress has not been marked. Yet notwithstanding the hopeful augury many men and women are dissatisfied with the results and the prospects. Nothing testifies so well to the tendency of human kind toward the bizarre as does the spread of osteopathy and Christian Science. In the foundations of both of these cults there can be found a few grains of scientific truth, but they are surrounded and concealed by such a fabrication of the false, the imaginary and the superficial, and the whole is often so exploited by ignorance and deception, that it would seem as if the normal mind must turn from them in disgust. Yet the mystery about them charms; and the multitudes of otherwise worthy men and women are attracted by them and cheerfully give to them their own souls and bodies and the souls and bodies of their children.

Osteopathy is an outgrowth from the primitive conditions prevailing on our western frontier in the period preceding our civil war, when educated physicians were few, opportunities for rational treatment were fewer, and boldness in assertion and action counted far more than exact conformity to scientific truth. The founder of osteopathy was one of the rude, itinerant practical bone-setters, probably often clever in his attitude toward the sick. Though unlettered, he was possessed of a positive philosophy that found a sympathetic hearing in the home of many an unlearned frontiersman, who would have been ill at ease under the ministrations of one trained in the nice theories of academic medicine. Osteopathy was and still is full of unfounded assertions regarding the normal functioning of the bodily structures, and the nature and proper methods of cure of disease, though of late years its more enlightened practitioners appear to be endeavoring to harmonize its practises with certain accepted scientific principles. It speaks much of "lesions," by which it means, not the commonly accepted pathological idea of morbid changes, but rather "any structural perversion which by pressure produces or maintains functional disorder." Of all parts of the body subject to lesions the spine is of fundamental importance, and "it is only in occasional cases of disease that no treatment is given to it." Treatment consists chiefly in correcting the structural perversion by manipulation with the hands and thus removing the pressure on the functionally disordered organs or on nerves or blood vessels supplying them. The osteopath serenely, with a single stroke of the hand, waves away the facts of scientific pathology. Says the prophet:

> I have concluded, after twenty-five years' close observation and experimenting, that there is no such disease as fever, flux, diphtheria, typhus, typhoid, lung-fever or any other fever classed under the common head of fever. Rheumatism, sciatica, gout, colic, liver disease, nettle-rash or croup, on to the end of the list of diseases, do not exist as diseases. All these, separate and combined, are only effects. The cause can be found, and does exist, in the limited and excited action of the nerves only, which control the fluids of parts or the whole of the body.

The cause of all diseases is "a partial or complete failure of the nerves to properly conduct the fluids of life." One can with difficulty suppress a feeling of admiration for the audacity with which time-honored scientific facts and principles are thus put aside. Osteopathy undoubtedly effects cures, but so does the medicine man of the savage tribe.

The founder of Christian Science prefaces her remarkable book with the words of Hamlet: "There is nothing either good or bad, but thinking makes it so." She does not seem to have been aware that these words were spoken at a time when Hamlet was strongly suspected of being out of his head and when his actions and utterances seemed to justify such a suspicion. If osteopathy is presumptively assertive, Christian Science is no less so. Its founder avers:

> The cause of all so-called disease is mental, a mortal fear, . . . a fear that mind is helpless to defend the life of man and incompetent to control it.

The cure of all disease is equally simple:

> Through immortal Mind or Truth, we can destroy all ills which proceed from mortal mind. . . . We can not obey both physiology and Spirit, for one absolutely destroys the other, and one or the other must be supreme in the affections. . . . Fevers are errors of various types. The quickened pulse, coated tongue, febrile heat, dry skin, pain in the head and limbs, are pictures drawn on the body by a mortal mind. . . . Destroy fear and you end fever.

Of hay fever it is said:

> It is profane to fancy that the perfume of clover and the breath of new-mown hay can cause glandular inflammation, sneezing and nasal pangs.

There is no "ancestral dyspepsia:"

If a random thought, calling itself dyspepsia, had tried to tyrannize over our forefathers, it would have been routed by their independence and industry.

The Christian Science disciple asks this question:

Should all cases of organic disease be treated by a regular practitioner and the Christian Scientist try truth only in cases of hysteria, hypochondria and hallucination?

The answer is not ambiguous:

One disease is no more real than another. . . . Decided types of acute disease are quite as ready to yield to Truth as the less distinct and chronic form of disease. Truth handles the most malignant contagion with perfect assurance.

Philosophers have pointed out the crudities, contradictions and confusion of thought in the metaphysics of Christian Science. It is interesting to look over the long list of achievements of which it boasts, for they include, among others, the cures of cancer, fibroid tumor, astigmatism, epilepsy, tuberculosis, rickets, hernia, valvular disease of the heart, measles, asthma, Bright's disease, dropsy, croup, tonsilitis and a bad temper. Moreover, it is claimed that by the same method broken bones have been instantaneously healed and the lost substance of disintegrated lungs has been restored. These wonders have been accomplished largely by the simple reading of Mrs. Eddy's book. But, however incredible may appear many of these so-called cures, what of the failures, what of the suffering and misery and death that might have been prevented? If scientific medicine, with all the skill which it can command and the hope which it can give to suffering humanity, often fails to justify its promises, what can be said of a would-be healing system which employs only the grotesque fantasies of a shallow mind? If Christian Science occasionally confers upon its believers a certain degree of cheerfulness of spirit and obliviousness to the petty annoyances of daily life, it numbs the senses and the courage and does not make the world's fighters. It is a lamentable fate for a child to be educated to a belief in such a debilitating panacea.

The same criticism can be made, in even stronger terms, of various minor kinds of mental or psychic healers, though here charlatanry is even more blatant. Many of these healers employ successfully the method of absent treatment. Even Mrs. Eddy says: "Science can heal the sick who are absent from their healers, . . . since space is no obstacle to Mind." The employment of absent treatment has received a considerable impetus with the advent of the telephone. How simple a matter it now is to ring up the healer in the depths of the night and request him to treat one's crying child from the recesses of his office a mile away! The credulous mother feels that something is being done for her suffering babe, even though the healer at his end of the wire merely turns over in his bed for another nap, having made a mental note of a fresh charge to be entered in his account book on the morrow. This picture is not overdrawn—its like may be seen any day in our cities.

It is a long step from such healers to the psychotherapist of the better class of the present day. In turning to psychotherapy I would have it understood that I speak of this subject in its broader applications. There is a notion, widespread in this country, which limits the term to the particular healing movement that was initiated at Emmanuel Church in Boston and has since extended to a few other churches. However instrumental this church movement may have been in arousing popular interest, the psychic method of dealing with disease is no new method, either in this country or abroad. The psychotherapist is an enlightened man, who recognizes and respects the achievements of scientific medicine and if he is not a doctor of medicine himself he works hand in hand with the doctor of medicine. He makes no pretence that psychotherapy is a panacea, he simply claims that it is a valuable supplement to the physical agencies commonly employed by the physician, and is useful in certain so-called functional diseases of the nervous system. It is a mistake, I believe, to draw, as he does, a sharp distinction between organic and functional nerve diseases, the former being accompanied by morphological changes in nerve structures, the latter not being so accompanied: for I can not conceive the existence of a disease involving function without some physical abnormality. It is a mistake too, I believe, to assume the existence of a subconscious mind through which the psychic influence is mediated: for the phenomena which are now often relegated to the subconscious are capable of explanation without going beyond the sphere of physiology. The psychotherapist does not rely upon supernatural forces, he employs the same agent that the hypnotist, the teacher and the parent employ, namely, suggestion, of which we all make daily use in our dealings with our fellows. If he couples with it the self-surrender involved in

Christian faith, it is because he believes the mental attitude thus induced to be, with many persons, helpful in making suggestion efficacious. But I take it that religious faith is not the essential factor. The psychotherapist himself is, or at least tries to be, reasonably sane. It is his patients and his would-be patients who often make extravagant demands on, and hold extravagant beliefs in, his powers. That his method is effective in a limited variety of diseases and in a certain proportion of cases seems to be beyond question. But that it is not of wide applicability as a therapeutic agent and that it is efficacious only in certain hands is equally true. The danger of psychotherapy is twofold: There is, first, the possibility of its practise by ignorant and unprincipled persons for ignoble purposes; and secondly, while it endeavors to make the weak morally strong, it may, like Christian Science, have the reverse effect. It can be employed with the greatest prospects of success by intelligent physicians, though in addition to a high training in the principles of scientific medicine, they should have a right understanding of human psychology, and should possess a high degree of sympathy with suffering mankind, coupled with a genuine, earnest desire to relieve distress.

It may safely be assumed that, with few exceptions, any one who publicly professes to be opposed to what the consensus of the world's best judges favors, is either mentally or morally deformed. The world can advantageously dispense with the services of those who are constitutionally in a chronic state of opposition to the public weal. There are two interesting aberrant types of humanity, of this negative nature, who constitute themselves a public annoyance and a public enemy. I refer to the antivivisectionist and the antivaccinationist. While claiming the right to be arbiters of scientific method, they are out of sympathy with scientific ideals, suspicious of scientific motives and ignorant of scientific achievements. They are swayed, not by calm reasoning, but by feverish emotion. They either blindly can not, or willfully will not, see that if their demands are acceded to, pain and sorrow and death that might have been avoided will be brought to thousands of their fellowmen.

Nothing is more certain than that scientific experimentation on animals constitutes the very basis of physiological, pathological, medical and surgical advance. To question its value in scientific progress is as futile as to question the value of the railway or the telegraph in commerce. To assert that it is synonymous with the infliction of pain rests upon gravely mistaken assumptions regarding its procedures. To abolish it or fetter it by legislation would change our hopefulness of future victory over hitherto unconquered diseases into despair, and deprive future generations of the blessings which we believe we or our successors can give them. And yet there are persons who would not hesitate to abolish animal experimentation summarily were they given the power. Others, seemingly normal-minded in many respects, would seriously restrict it. And for what reason? Because of an over-wrought emotionalism, a hyperesthesia regarding the possible sufferings of animals, a state of things in the laboratories that is wholly fancied, and an unwarranted distrust of the humanity of man. I have had occasion, during recent years, in defending the moral right and even duty of competent persons to endeavor to benefit mankind through experiments on animals, to examine in some detail the writings of some of the leaders in the present outbreak of antivivisection sentiment, both in this country and in foreign countries, and I have been forcibly impressed with the low intellectual and moral tone therein displayed. Some of its writers frankly confess—and this is not exaggeration —that were it a question of the life of the animal or the human being, they would save the former—a sentiment, the abnormality of which needs no comment. If the antivivisectionist is ignorant of what actually goes on in scientific laboratories, he has no moral right to inveigh against the method of animal experimentation. If he takes the rare position of doing so with full knowledge, he excludes himself from the multitude, who believe in the beneficence of science and put their trust in those who follow her lead. It is idle to maintain that the man who has the high-mindedness, the intelligence, the patience and the skill to perform the scientific experiment, needs the threat of a penal conviction to teach him obedience to the principles of common humaneness. The antivivisection movement is the least worthy and commendable of all movements that profess to be uplifting, and it is only those whose sense of moral proportions has become askew, who enter actively into it. For you who are soon to become practitioners of medicine it is a duty which you owe to your profession to instruct your patients concerning

the methods and the value of animal experimentation and to influence them to maintain toward it an attitude of sanity.

To deny the value of the remarkable discovery of Jenner, now with more than a century's evidence in its support, and with recent allied discoveries confirming its scientific significance, is merely wilful. Yet a well-known writer concludes an extended discussion of the subject with these words:

> That vaccination is a gigantic delusion; that it has never saved a single life; but that it has been the cause of so much disease, so many deaths, such a vast amount of utterly needless and altogether undeserved suffering, that it will be classed by the coming generation among the greatest errors of an ignorant and prejudiced age, and its penal enforcement the foulest blot on the generally beneficent course of legislation during our century.

It is interesting that in the same volume the author utters a long lament over the neglect which the world has given to phrenology, and prophesies that in the coming century "it will prove itself to be the true science of mind." The author of these remarkable pronouncements, Alfred Russell Wallace, made important contributions to science during his early life, but there is a sad intellectual contrast between his discovery, announced coincidently with that of Charles Darwin, of the principle of the origin of species through the agency of natural selection in the struggle for existence, and his indefensible stand, sixty years later, regarding vaccination and phrenology.

Opposition to vaccination is not new. Even in the days of Jenner its opponents are said to have claimed that its tendency "was to cause bovine characteristics to appear in children: that they developed horns, hoofs and tails, and bellowed like cattle." The objections of recent years have been less picturesque, and have been confined largely to a denial of the efficacy of vaccination in the prevention of disease and the saving of life. Reliable statistics from communities where vaccination has been compulsory and has been rigidly enforced clearly disprove this claim. Thus, it is said on authority that in recent years the mortality from smallpox in France, where there is only a partial and imperfect vaccination law, has been from ninety to one hundred times greater than in Germany, where vaccination is strictly required. During the Franco-Prussian war the French army lost 23,400 men by death from smallpox, and the German army only 450. In the greater city of New York, with its estimated population of over 4,000,000, and in which vaccination is rigidly performed, there were but nine deaths from smallpox during 1907, although one hundred years ago the disease was one of the great scourges. As a companion picture, the well-known case of Montreal in 1885 is strikingly instructive. During a period of several years vaccination had been neglected. Then a single individual, a Pullman car conductor, travelling from Chicago, brought the disease into the favorable locality. An epidemic swept over the city, and caused the death of 3,164 persons within nine months. It is much to be feared that this case will be paralleled with even more direful results in England, where, through the efforts of anti-vaccinationists, the soil has become well prepared. The antivaccinationist often denies the germ theory of disease, and objects to the whole modern treatment of infectious diseases by antitoxins, serums or vaccines, saying that they are poisons, and that the proper preventives of the diseases in question are cleanliness, pure air and sunlight. Poisons, cleanliness, pure air and sunlight are, indeed, magic words, and yet the microbe is a reality, not a theory. If cleanliness, pure air and sunlight—and what is more expensive for the masses?—have not availed, and the microbe has entered or threatens to enter the body, shall we leave him free to kill? Antitoxins, serums and vaccines are not empirical or artificial remedies; they are nature's antidotes to nature's poisons, and in this respect ought to be classed with cleanliness, pure air and sunlight.

While speaking of some of these fads and foibles of aberrant mankind, I am tempted to say a word about our greatest popular educator, the newspaper. Unfortunately, our newspapers, with few striking and commendable exceptions, are pronounced derelicts in the dissemination of sound scientific and medical ideas. With men of science, trained in sobriety and accuracy, "newspaper science" has become a synonym for the grotesque, the ridiculous, the sensational and the inaccurate. A justification of this on the ground of unavoidable reportorial haste is not to be accepted, nor can I sympathize with the policy that makes an assumed popular desire the excuse for filling the columns with that which is untrue and fantastic. Laboratories, clinics and hospitals are daily productive of serious discoveries, many of which are of inestimable value to the welfare of mankind and, if considered merely from the

journalistic standpoint, are of great interest as matters of news. Yet the man on the street rarely finds these mentioned in his daily paper, although he has abundant opportunity to learn of the frivolous and the sensational. With such instruction, we can not always blame him for his beliefs. The newspaper might, if it would, become a great power for good in spreading correct information regarding scientific and medical facts and wholesome ideas regarding scientific and medical theories.

The final topic of which I shall speak is one that concerns the attitude, not so much of the public as of yourselves as practising physicians. The training of a physician is one which should inculcate in him the general principles of sanity and good judgment. Without going in detail into the qualities that make a physician professionally successful, I would urge upon you the very great importance of one thing, namely, correct diagnosis. Avoid hasty, ill-considered diagnoses. If you find the stomach not performing its functions properly, your first thought will be to treat the stomach, and yet such a procedure might be useless, for the stomach may be affected only secondarily. Among civilized peoples there is constant communication between separated individuals or communities, and the one is constantly influencing the other. This influence may be performed by the aid of two mediums: by the written, spoken or telegraphed message, and by the transmission of material things, such as food, clothing, luxuries, or the thousand things upon which our lives and actions as civilized beings depend. Thus, while members of human society, we are not free, independent agents, each individual living his life in isolation from his fellows. The conditions are similar within a complex organism like the human body; there too no part is independent of the other parts. The correlation between the various organs of the body is a topic that is now looming large above the horizon of physiological discovery. There are two ways in which one organ is capable of influencing another: through nervous impulses and material substances. Nervous influences have long been recognized, but influence through the action of material substances constitutes a comparatively new subject. It is now known of several organs that they manufacture chemical substances, which exert characteristic physiological actions on the cells of other organs. Thus the acid which is formed by the glands of the stomach, and is essential to gastric digestion, acts upon the sphincter muscle at the plyorus in such a manner as to cause it to relax and open a passageway into the duodenum for the digested gastric contents. Once arrived within the small intestine the acid then causes a contraction of the sphincter, which prevents the return of the chyme. But the duties of the acid are not yet completed. It proceeds to stimulate the epithelium cells of the lining wall of the small intestine and makes them produce a characteristic substance, recently discovered and called secretin. This passes from the cells into the blood-stream and takes two paths: one to the pancreas, where it stimulates the pancreatic cells to secrete their characteristic digestive juice; the other to the liver, the cells of which are similarly stimulated to produce bile. Any interference with the production of acid in the stomach may thus interfere with a whole train of physiological processes which are dependent upon it. Adrenalin, a peculiar chemical substance formed by the adrenal bodies, which in recent years has become valuable to the physician because of its extraordinary power of constricting blood vessels, acts normally within the body upon the whole sympathetic nervous system, and thus influences the various important organs supplied by the sympathetic nerves. There is much reason for believing that intimate relations exist, through the action of chemical substances as yet obscurely known, between the adrenal bodies, the pancreas, the thyroid, the liver and perhaps the heart and the stomach. But if the mutual relations of normal organs are so involved, it is easy to see how intricate the situation may become when an organ becomes diseased, and how difficult for the physician may become the problem of locating, from the assemblage of symptoms, the primary seat of the trouble. That the problem is not necessarily hopeless of solution is demonstrated daily by clever diagnosticians. One can not help having a profound admiration for the man who, armed with an intimate knowledge of nerve centers and nerve tracts, will from certain obscure paralyses specify the exact spot in the course of the tangled nervous system where an offending tumor lies. My present purpose, however, is not so much to impress you with the difficulties of making a sane diagnosis, as to caution you against the making of an insane one. An ill-balanced judgment in diagnosing disease is one of the commonest faults of the physician,

and if the nature of the disease is not discovered, the success of the treatment is not even problematical.

The moral of my tale is quickly drawn. It is, first of all, for you who are to become healers of the sick to be sane. It is for you diligently to seek after the truth, and, having found it, to follow its teachings. But you can do more than this, and it is your duty to do more. With your training and with your growing experience, your opinion in matters of health and of disease, in whatever pertains to the human body, will be sought and will deserve respect if that opinion is in accord with what learned men have declared to be wisdom. You will thus be called upon to be mentors and teachers. I plead, therefore, not only for sanity in your own beliefs and practises, but for the constant exercise of your enlightened influence toward the eradication of what has pithily been called "pestilential nonsense" from the minds of your patients and your fellow-men. Swayed by sentiment, they will often seek the bizarre, the foolish and the delusive. "The time will come," said a wise man, "when they will not endure the sound doctrine. . . . They will turn away their ears from the truth, and turn aside unto fables." They will hold to their opinions with the tenacity that is born of ignorance. Montaigne has said that "nothing is so firmly believed as that which a man knoweth least." You will have many opportunities to show to the world that the way toward strange gods is not the way of salvation. You should hail the chance of thus becoming missionaries of common sense to those less well equipped than you. May you make good use of your education and your powers, and, both as physicians and as citizens, always stand as staunch defenders of the gospel of sanity.—Published December 10, 1909, in *"Science."*

SOME OBSERVATIONS ON LABORATORY DIAGNOSIS.*

BY

DR. E. A. COLTON.

Schleiden and Schwan established the cell-theory in 1838. Immediately biology was unified. The plant and animal kingdoms could now be studied from a common view-point and that great field—the bacterial world—was frankly approachable. The science of medicine felt this influence chiefly in the department of pathology. Formerly the organ had been considered the basis of normal and diseased function. The activity of the cell now became apparent and its all important relation to the functions of the body was understood. This changed view-point resulted in a rapid increase in research work, and a large number of men were soon devoting their entire attention to laboratory investigation.

You are all familiar with the long list of diseases we are pleased to call infectious; that the specific organisms causative of tuberculosis, of typhoid and of diphtheria were early isolated and studied; and that many others have since been determined. In many cases this clear understanding of cause has resulted in effective treatment, both preventative and curative. There is another phase of laboratory research which antedates the cell-theory, but holds over and is still grappling certain great problems. The study of the secretions and excretions of the body has held the attention of many careful students for years. In the chemical and microscopic analysis of the urine we have tried to see the cause by the light of the effect, but that the field has been greatly illuminated is open to question.

Today every city has its medical laboratory. Our health boards and our state governments are providing amply for such work, so that with minimum expense and trouble we practitioners can avail ourselves of this valuable assistance. That the work of these specialists has advanced wonderfully the science of medicine no one questions, but is there not a real element of danger in this tendency to turn to the laboratory—to leave the actual diagnosis of disease to men more or less distantly removed from the patient—to hinge our final decision on the report rendered after a study of a single culture, or to pronounce our patient a victim of chronic renal disease solely by the urinary findings?

There are men here today who practiced medicine before the Klebs-Loeffler bacillus was recognized. By a careful, painstaking observation and examination of their patients they attained correct diagnoses and by every means then at hand combatted that dread disease. They were conscious of the infectious nature of the malady and were ready to accept the new, correct theory of cause and the logical method of treatment the

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minute they were known. Yet these men were trained by hard experience to appreciate bed-side diagnosis, and continued to exercise their keen sense, though at the same time they dispatched the throat smear to the nearest laboratory. We are today ready to accept the presence of Klebs-Loeffler bacilli as positively diagnostic, but are we justified in regarding as non-diphtheritic such cases as show no such bacilli in one or two throat cultures? If we are influenced by the clinical study of our case to send repeated cultures, the second, the third, or even the fourth or fifth may confirm our diagnosis. "Incompetence, carelessness, absence of bacilli in particular tubes, or too few present to be found," are all possibilities which ought at least to be put in the balance with our own careful study of history, symptoms and physical examination.

Typhoid fever is another condition in which there is too great a tendency to rely on the laboratory for our diagnosis. The Widal Agglutination test has its value. It is, however, rarely present before the second week, and frequently occurs only at a much later stage of the disease. Often it is first obtained when the convalescence is well established and the patient has presented for days a perfectly normal temperature. If we permit ourselves to grow careless in our observation of the patient—content to prick his finger and send a drop of blood to the laboratory for a diagnosis—we fall far short of our plain duty, not alone to our patient, but to a community entitled to the protection of every possible prophylactic measure long before we can get the Widal test. McCrae says: "It seems fair to consider that the Widal reaction is of great value when a positive result is given and that with proper technique this justifies the diagnosis of typhoid fever, a previous attack being excluded. But to a negative result no great importance should be given as shown by the number of reactions given for the first time later on in the disease." The same history, symptomatology and physical signs which led Willis, Louis, and the other early observers to differentiate typhoid from typhus, malaria and similar continued fevers, should be appreciated by present-day physicians and the Widal reaction be assigned its place in proper relation to the whole problem.

Albumin and casts in the urine for many years were accepted as a positive indication of serious renal disturbance, if not indicative of true nephritis. It has been the custom to determine the extent of the impaired function resulting by estimating, by a pretty method, the urea contained in the twenty-four hour urine. To lend a finish to the picture the cells present in the microscopic field were referred to as "renal" cells, and the work was done.

A most careful study of hospital records has shown conclusively that the diagnosis of renal disease based on the presence of albumin, even in large quantity in the urine, has not been confirmed by the post-mortem examinations. On the other hand cases not suspected of serious kidney disease because of the absence of albumin from the urine, have at autopsy been pronounced well developed nephritis. The albumin reaction appears and disappears. It has repeatedly been found after unusual muscular exertion, such as results from forced marches or athletic contests, or after severe mental strain, only to disappear completely when the fatigued condition passed.

Casts—particularly the hyaline and granular types—are entitled to little if any more regard than the albumin. The use of the modern method of centrifuging the specimen has wonderfully increased their known occurrence. The older, gravity method of obtaining the sediment was far less liable to show their presence because the sedimentation was not so effective, and the time required permitted a certain number of casts to disintegrate. One observer has determined that in a large series of cases over fifty years of age two-thirds of the number showed albumin and casts in the urine. These cases were taken at random. Certainly no one would maintain any such percentage of nephritics in those of the public who have passed the fifty mark.

What importance then shall we attach to our urinary findings? We can only arrive at a safe conclusion on this question when we realize the importance of regarding the urinalysis in its proper relation to the whole symptomatology. The little beeker of urine, or the twenty-four hour specimen, must be studied, but the habits of life, the general physical examination, and the symptoms presented by the patient are of vastly more importance. Present day knowledge of the occurrence of casts and albumin in the urine render the laboratory diagnosis of nephritis absolutely unsafe.

The greater significance in these cases must be attached to the determination of the total urine voided in a twenty-four hour period, and particularly to the presence of a nocturnal

polyuria. The individual who regularly rises at night once or twice or oftener, and shows a nocturnal secretion of urine in excess of the daytime quantity, is far more deserving our careful consideration than he who intermittently shows albumin and casts.

But whether the kidney is suspected or convicted, it is the limitation of function that most interests us. It has been the proper thing to determine with a nice degree of accuracy the urea such an organ could excrete in a given twenty-four hours. To estimate accurately how much urea a certain amount of urine contains is a finished bit of work, but it has no more value in our problem than would follow a close measure of the sodium chloride excreted by the sweat glands in a similar period of time. The formation of urea—which must occur before it can be excreted in the urine—we know, depends on many factors, perhaps the most important being the quantity and quality of food consumed and the amount of exercise indulged in. We also know that the feces contain quite as much waste nitrogen as does the urine. It is immediately evident that we must have our patients' diet carefully regulated as regards nitrogen intake and must know exactly the nitrogen escaping in the feces before we can place an intelligent valuation on the quantity of nitrogen appearing in the urine as urea. Obviously such a regulation of the nitrogen balance in our patients would be laborious at least, and often utterly impractical. Perhaps we lose in elegance of technique, but we certainly gain in useful information, when we disregard the urea, and instead determine by the quantity of urine voided, and the specific gravity of that urine the total solids excreted by the kidneys in the twenty-four hour period. Such a simple procedure, easy and practical, gives us far more information than the more elaborate urea determination furnishes.

I do not maintain that albumin and casts have no significance. They do indicate a renal irritation at least. Time and a study of the patient voiding that urine, however, are absolutely essential to determine the degree of the disturbance, and to show whether anatomical changes have or have not taken place in the kidney. The examination of one or two specimens of urine in your own or some one else's laboratory does not warrant a conclusion—either positive or negative. The condition of the circulatory system, the presence or absence of headache, dropsy, disturbance of the digestive tract, coupled with a study of the specific gravity and quantity of urine passed in a twenty-four hour period—especially the presence or absence of increased nocturnal secretion—all observed for a reasonable period of time, give us the needed information on which to base a diagnosis.

The isolation and study of the tubercle bacillus marked an epoch in the knowledge of tuberculosis. The clear understanding of the germ's causal relation to consumption has made possible intelligent prophylactic and curative treatment, so that we may reasonably hope some time to relieve humanity of this centuries-old scourge.

Could we have retained our knowledge of the true significance of the bacillus, and lost our ability to recognize it in the sputum, I sometimes feel it would have been a good thing. The importance attached to sputum examination by the laity and by the medical profession is my reason for such belief. Bacilli in the sputum mean tuberculosis, but the converse—no tubercle bacilli in the sputum mean no tuberculosis—does not follow: and yet many able physicians seem to rest their diagnosis right there. Nagel found tubercle bacilli in 1.4% of 762 patients in Stage I, in 38% of 264 patients in Stage II, and in 90% of 55 in Stage III. In other words, less than two out of every hundred of the first stage cases showed tubercle bacilli in the sputum—the other ninety-eight, equally tuberculous, showing no bacilli; and only about one out of every three of the advanced cases showed their presence, yet the 62% with negative sputum were way beyond that incipient stage ideal for treatment. These statistics are not based on the work of novices, but on the findings of skilled bacteriologists. How many more sputa would have fallen in the negative column in the hands of less experienced microscopists, it is hard to say.

In view of the pathology of pulmonary tuberculosis it is not strange that so few of the early stage cases show bacilli in the sputum. Their presence is necessarily the result of ulcerative processes discharging into the bronchial system. Infiltration and tubercle formation may be quite advanced before such a condition arises as to throw the evidence of the disease into the expectoration.

It is not an easy thing to diagnose incipient tuberculosis accurately and unfailingly. It may be necessary to observe the patient for a time, to study the temperature, the pulse, the weight, the

strength, the appetite and to make repeatedly searching examinations of the lungs. Truly incipient cases present only the slightest physical signs—or none at all—and may easily be overlooked at one examination. Many of these cases have no cough, no sputum, yet they are as surely tuberculous as it is possible to be, and time will carry them to the advanced conditions where treatment is of little use.

The significance of tubercle bacilli in the sputum is unquestioned, but their absence has absolutely no weight in the balance of diagnosis. To rely for a diagnosis on sputum examination is futile. We must take these cases more seriously, and give them our closest observation if we would recognize them in time for advantageous treatment. It is an easy method for the doctor to send the sputum to the laboratory and rest his decision on the report returned, but according to Nagel's statistics it is going to prove a mighty costly method to ninety-eight out of every hundred cases of incipient pulmonary tuberculosis.

If we suspect the patient before us has any pulmonary disease, we must take time to learn definitely the family history, and the personal history—especially as regards any possible source of infection. A reasonably long study of the temperature and pulse are indispensable, and finally the chest must be bared and an examination made as searching as our eyes, and our ears and our finger-tips will permit. No amount of sputum-examining can supplant such work. Positive sputum ought to be but confirmatory; negative sputum absolutely devoid of meaning. Because of the progressive nature of the disease, and the importance of treatment during the first stages, the early recognition of tuberculosis is imperative. Such early recognition will never follow while we disregard our own opportunities for studying our patient and accept the absence of tubercle bacilli from the sputum as final. In this class of cases as in no other, clinical work is not in any measure or manner safely replaced by laboratory methods of diagnosis.

The tuberculin test is now attracting universal attention. This is not a laboratory procedure, but it has the characteristic, common to the other subjects discussed, of being a short-cut method of diagnosis, and there is danger that it may be applied with the sacrifice of careful clinical study. The ophthalmic test has been pretty generally abandoned. Men who are working constantly with the skin and subcutaneous tests are still in doubt as to the true value resulting. In a recent personal letter Dr. Allen of Saranac Lake writes: "Thus the skin test is used, not as a decisive point alone, but when taken in conjunction with constitutional symptoms or physical signs or both, it is valuable in making a diagnosis when tubercle bacilli are not present." When a man so trained and so environed as Dr. Allen places such limitations on this process, we general practitioners can ill afford to substitute it for our clinical work.

What I have said is not intended as an arraignment of the laboratory. I recognize the vast service it has rendered the science of medicine. In the future work will be done if possible eclipsing the achievements of the past. But I do believe there is a popular present-day tendency on the part of the practitioners of medicine to neglect the study of their cases, and to turn for a diagnosis to the nearest laboratory. The day has passed when we could safely hide behind the microscope and the test-tube. We must cultivate our ability to see, to hear and to feel our patient. The field of clinical diagnosis is vast, worthy of the life-long study of any man. From haste, from indolence, from habit, let us not neglect it, and lose its great possibilities.

HYDROPHOBIA AND THE PASTEUR METHOD OF IMMUNIZATION.*

BY

DR. W. H. LANE.

Rabies is an acute, specific disease communicated to man from some lower animal. Up to date I can find no authentic instance of the transmission of rabies through the bite of man, but in view of experimental evidence proving the virulence of human saliva for animals, such injuries must be regarded as dangerous, and be treated accordingly. It is always an inoculation disease, communicated directly through a wound usually made by the teeth, the infectious matter being the saliva, which contains the virus. Hitherto the organism underlying rabies, though its existence was to be assumed, had not been specifically isolated. Recently, however, Negri, of Pavia, has described a micro-organism in the

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nervous system of animals suffering from rabies. It is of the nature of a protozoon, round, oval, or angular, varying widely in size. These protozoa have been found in the nerve cells in all parts of the nervous system, and Negri claims to have demonstrated them in fifty out of fifty-two cases examined. They were not present in conditions other than rabies. He also found the organism in one case in man.

Rabies occurs in almost every part of the world, Australia being the only country known to be exempt, owing to the rigidly enforced quarantine.

All mammalia are susceptible and birds also contract rabies when bitten or otherwise inoculated. Doge are most frequently affected and to them we owe the perpetuation of the disease.

It is not infrequent among wolves, foxes, hyenas, jackals, skunks, etc. Cats are rarely affected. Among the domestic animals cattle are most often affected; swine least so. It is uncommon in horses.

Because of their various occupations men are not only more liable to be bitten by rabid animals, but when bitten are more apt to contract hydrophobia. This is due to the greater protection afforded by the skirts, and not to any inherent immunity in women. Two-fifths of all cases occur in children under fifteen years of age. The statistics of the Pasteur Institute, Paris, from 1886 to 1893 show that the largest number of patients apply for treatment in March, April and May; the smallest number in September, October and November.

The virus is always contained in the saliva and appears to be excreted chiefly by the parotid gland, although the salivary glands are more or less virulent. The lachrymal glands, pancreas and suprarenal capsules may contain the virus. It is also excreted by the milk at times. The blood and lymph are never virulent. Every part of the central nervous system constantly contains the virus. The large nerve trunks and the cerebrospinal fluid are usually virulent.

But very little is known regarding the true nature of the virus. As I have previously stated, Negri, of Pavia, claims to have discovered a micro-organism which is quite constant in the nervous system in these cases, and his reports would seem to be verified by other observers.

The virus is destroyed by heat, drying and light. It is not injured by cold. Solutions of corrosive sublimate, citric acid, iodine and formalin, in the correct strength are fatal to the virulency of the virus. Bile also rapidly destroys the activity of the virus. From the point of inoculation the virus makes its way to the central nervous system along the nerve trunks, producing no symptoms until the central system has been the seat of the virus for some time.

The average period of incubation in man is about forty days, but it varies between wide limits. Most cases occur between the twentieth and ninetieth day. It is very uncommon after three months and very rare indeed after six. The shortest authentic period is twelve days.

There are no gross pathologic lesions, either in man or in animals, which enable one to state positively that death has been due to rabies. In dogs, perhaps the most constant feature is the absence of food from the stomach and the presence of foreign matter, such as straw, wood, hair, etc.

Until recently we have been obliged to resort to inoculation of animals for a positive diagnosis. On account of the time required, the inoculation of animals is of no service in determining the necessity of antirabic inoculation. Fortunately, it is now possible to make a rapid diagnosis by microscopic methods, owing to the recent discoveries of Negri and others. The process of hardening and cutting may be dispensed with and the examination for Negri bodies made directly in the fresh tissue by the smear method. Its great advantage is in giving an almost immediate diagnosis. Gorham describes it as follows: The top and occipital portion of the skull are removed, and, without taking out the brains, pieces three to four m. m. in diameter are taken from the cerebral cortex in the region of the crucial sulcus, the cortex of the cerebellum, and the hippocampus major. These are placed on a well-cleaned slide and crushed under a cover-glass until the matter spreads to the edge of the cover, which is then drawn slowly and evenly the length of the slide, leaving a uniform film of brain matter. The slide is then immersed in wood alcohol for one to three minutes and dried in the air. The stain is made by adding two drops of a saturated alcoholic solution of rose aniline violet and sixteen drops of a one-half saturated aqueous solution of methylene blue, to eighteen c. c. of distilled water. Flood the slide with this stain and heat gently until steam rises, wash in water and dry. The Negri bodies appear as pink, crimson or magenta inclusions in the blue

nerve cells. In early cases these bodies are found only in the large cells, while in advanced cases, they are found in all kinds of nerve cells. The discovery of Negri has been abundantly confirmed and has been shown to be very valuable for the purpose of making a rapid histological diagnosis. Bertarelli states that in more than 1,000 examinations the Negri bodies were never found in animals free from rabies, and, on the other hand, were present in all infected animals with three exceptions.

The usual premonitory symptoms are headache, loss of appetite, sleeplessness, great depression of spirits, and sometimes darting pains that radiate from the seat of the bite. The patient wears an expression of the most intense anxiety. Hyperaesthesia is present and attains a marked degree, and the special senses exhibit the keenest vigilance, a noise or a draft of air often causing great psychic disturbance. Quite early the mere sight of water is dreaded by the patient, and forms a characteristic feature of the disease. This symptom has given the name hydrophobia to the disease. There is also great restlessness, with frequent lateral rolling of the head, and foaming saliva may be ejected from the mouth. The symptoms occur in paroxysms, and during the intervals the patient is generally free from excitement.

There is fever as a rule, the temperature ranging from 100° to 103° F. or over. It may be entirely absent. Vomiting is frequent, the ejected fluid being greenish-brown and sometimes containing blood. The symptoms just described last from two to four days and are rapidly followed by the paralytic stage, in which the patient passes into actual unconsciousness or coma, without spasms. This usually lasts from twelve to eighteen hours, ending in death. In man there is a paralytic form of rabies, but is very rare. Thirty cases have been reported and it is apt to follow deep and multiple bites. The paralysis begins near the part bitten, and spreads until it becomes general, finally involving the respiratory centers.

When the disease has declared itself, the treatment is purely palliative. Every source of annoyance, physical and mental, should be removed. The room must be darkened, warm, and quiet. Especially must draughts of air and sharp noises be avoided. No drugs have any specific value. Hypodermic injections of morphia and inhalations of chloroform will generally give more relief than any other drugs. They should be employed from the beginning and no time wasted in giving the milder anti-spasmodics. The bite of any suspicious animal should receive prompt attention. Open the wound freely so that every part of it can be exposed. Encourage bleeding by cupping or suction. As soon as possible the wound must be thoroughly cauterized. For this purpose, fuming nitric acid is the best. It must be applied to every portion of the wound with a fearless hand, deep punctures having previously been laid open with the knife. For this strenuous treatment a general anaesthetic should be used.

The importance of the thorough cleansing of the wound cannot be overstated and should never be neglected, since it at least retards the development of the disease, and thus renders the Pasteur treatment more certain of effect.

Pasteur observed that by residence in the nervous system of certain species of animals the power of the virus was exalted, while, on the contrary, by residence in other species it became attenuated. By inoculation of rabbits in series, one from the other, we obtain a virus of greatly increased virulence, so that after about one hundred passages they will die with great regularity on the sixth or seventh day. Beyond this point no increase of virulence can be obtained, therefore, Pasteur gave it the name "fixed virus." On the other hand, when monkeys are inoculated in series, the period of incubation becomes gradually lengthened, until after a time the virus becomes so attenuated that it no longer causes death. Thus Pasteur had at his command rabic virus of every degree of power, and in his early experiments he began his immunization with the greatly attenuated virus obtained from monkeys, passing gradually up from the weakest to the strongest produced in this animal, then passing on to the exalted virus in the spinal cords of rabbits in the same way, until the fixed virus was reached. At the end of the series he found his animals immune, not only against the fixed virus but also against the bites of rabid dogs. The method was not absolutely certain, and was, moreover, impracticable, for obvious reasons.

With the assistance of Chamberland and Roux the method in universal use today was worked out, depending on the fact that the rabic virus contained in the spinal cords and brains of rabbits becomes attenuated fairly evenly and regularly by drying when protected from putrefaction, so that it is harmless at the end of fourteen

or fifteen days. The method is carried out as follows: Rabbits are inoculated subdurally with the fixed virus daily. At death, the spinal cord is removed with strict aseptic precautions, cut into three pieces, and suspended in large bottles containing a layer of caustic potash. Thus a full series of cords from fourteen days up to one day old is at hand, giving various attenuations of the virus from the weakest to the strongest. The usual dose is a portion of cord 2 to 3 m. m. in length, which is prepared for injection by trituration and suspension in normal salt solution or bouillon.

After many experiments on dogs, during which it was proven that absolute protection could be given against the most powerful virus and also that the treatment was effective for animals even when instituted several days after infection, it was determined to try it on man. The first patient ever treated was Joseph Meister, an Alsatian boy of nine years, who was severely bitten on the arms and legs, July 4, 1885. Twelve injections were given in ten days, beginning with well-attenuated cords, and ending with a fresh cord which was fully virulent. Rabbits were inoculated daily with the same emulsions as the boy. Those inoculated during the first five days all escaped, while the remainder all died of rabies. The boy showed no signs of injury and five years after the treatment was in good health.

The Pasteur treatment should always be begun as soon after the bite as possible. It is useless after the symptoms have declared themselves.

Regarding the duration of immunity, we have no statistics on this point for man. It has been studied in dogs, in whom the protection has been found to have disappeared in 21% at the end of one year, in 33% after two years, while in others it has persisted for five years. Persons bitten a second time by a rabid dog should again receive treatment, unless a very short time has elapsed.

Rabies is a preventable disease. Since more than 90% of all cases are due to bites from dogs, and since it is kept alive in the canine race, our measures must be directed to the control of these animals. The results of muzzling justify its recommendation, and there is little doubt that its strict enforcement will eradicate rabies from any community in a short time. Great Britain furnishes a striking example of its efficacy. In 1887 there were 217 cases of rabies in Great Britain; in 1888, 160; and 1889, 312. The increase caused alarm, and muzzling was enforced, as a result of which, in 1890, 129 cases were seen; 1891, 79 cases; in 1892, 38 cases. There was much opposition to muzzling and the ordinance was relaxed. In 1893 the number of cases rose to 93; in 1894 to 248; and in 1895 to 672. Owing to the general alarm, muzzling was again enforced, resulting at once in a marked decrease of cases, to 438 in 1896, 151 in 1897, 17 in 1898, 9 in 1899, and none in 1900.

And the Bathtub Came.—Mark Twain was censuring the extravagance of the American multi-millionaire.

"Just consider," he said, "these new travelling bathtubs. I understand they're getting as common in 5th avenue as electric elevators.

"A reporter was telling me about them. He called on a cotton millionaire one Sunday morning. The millionaire received him in his dressing-room, and after their business talk was over, the wonders of the house were taken up.

"The millionaire boasted about his Raphaels and hardwood floors, his light plant and French furniture, his gold-plated plumbing and Gobelins; but he boasted, above all, about his travelling bathtub.

" 'It's onyx,' he said, 'a lovely golden shade. It runs by electricity, on tiny pneumatic tires, smooth and silent. Whenever I don't feel disposed to leave this room, it comes in here to me filled, just as I like it, with genuine Atlantic Ocean, brought up from Coney, and warmed to 80 degrees. It comes in any time I push this button.'

" 'Push it now,' said the reporter, curiously.

"The button was pushed, the doors slid magically open, and the great onyx bath glided in stately silence into the room. But in it sat the millionaire's horrified wife."

Treatment of Ivy Poisoning.—A. W. Baird, of New York, advocates the use of a 2 to 4 per cent. solution of potassium permanganate in the local treatment of rhus toxicodendron poisoning. Alcohol relieves the discomfort, but by dissolving the toxin spreads the infection. The disadvantage of the permanganate treatment is the discolorization of the skin. Its advantages are, however, sufficiently great to outweigh this.—*Med. Record,* Aug. 7, 1909.

Vermont Medical Monthly.

A Journal of Review, Reform and Progress in the Medical Sciences.

H. C. TINKHAM, M. D.,
B. H. STONE, M. D., ...*Editors.*

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EDITORIAL.

There probably is no question but that the present method of committing the insane to institutions for treatment and care meets the general conditions fairly well, and in a large majority of cases of insanity the local physicians are able to deal with the cases intelligently and there is no cause for complaint in their findings. However, we feel that it would be a step in advance if all, or at least most cases, of insanity were examined by an expert before being committed to an institution.

It goes without saying that a physician who is devoting his life to the study of insanity must be in a better position to determine the sanity or insanity of an individual than the general practitioner who naturally gives most of his time to the study and care of the common ills and accidents of life. And while the general practitioner can easily determine cases of insanity that are well developed, yet we believe there are a sufficiently large number of cases where determining the sanity or insanity of the individual is sufficiently difficult to warrant the opinion of an expert, not only as regards the mental condition but also the advisability of protection and treatment.

The present law which prohibits any physician who is connected with an institution for the care of the insane from having anything to do with committing an insane person to an institution, deprives the people of the state of the services of the only specialists there are in this class of disease in the state.

It might be well to prohibit physicians who have private institutions for the treatment of the insane from being party to the commitment of insane to their own institution although the danger from this source seems to us much more imaginary than real. But what earthly reason can there be for debarring the physicians connected with the State Hospital for the Insane from giving their opinion in regard to the mental condition of any case, or the advisability of a patient being placed in a hospital for treatment? There certainly is no financial advantage to them in committing a patient and the more patients there are in the institution the more work there is for the physicians in charge. So, if it were assumed that these physicians were amenable to influence in regard to the matter, it would have to be admitted that it would be for their interest to keep as many patients out of the hospital as possible.

This, however, is nonsense. These physicians are honest men who are doing their best to advance the knowledge of mental disease and to serve the state and the patients under their care to the best of their ability, and in our judgment it is a mistake to deprive the people of the state of the services of these specialists, in determining the sanity or insanity of patients.

The law now requires an examination by two physicians for committing an insane person. Supposing the second physician were to be from the State Hospital for the Insane. The fee

which is now paid to the second local physician would go a long way toward paying the travelling expenses of the physician from the State Hospital. He already has his salary and would not have an additional fee. The patient, then, would have the services of a specialist with little if any increased expense to the town, the State or the patient.

We believe that some arrangement by which patients suffering with mental disease can have the services of physicians who are specialists in this subject for determining both the mental condition and the advisability of institutional treatment would be a decided step in advance of the present system of dealing with cases of mental disease, and that it can be done with very little if any additional expense.

It has recently been decided by the Supreme Court of Vermont that an insane person cannot be confined unless such person is dangerous either to himself or others and that the statement that this person is insane and dangerous form a part of the commitment papers.

This reveals the fact that a large part, if not all, of the insane confined in institutions in the State at the time of this decision were illegally committed. This does not mean that they were not insane or that it was not advisable that they should be confined in some institution for observation, care and treatment but simply that there was a technical error in making out the papers. This has necessitated the securing of new certificates for their re-commitment in order to conform to this legal technicality.

While physicians cannot be held responsible in any way for this error it is very important that they should know the way a physician's certificate for the commitment of the insane must be made out in order to be legal.

The present law distinctly states that "idiots and persons non compos or demented persons who are *not* dangerous shall not be confined in a hospital for the insane."

This law is evidently the result of the idea that hospitals for the insane are in the same class as the penal institutions of the State—simply a place of confinement for people who are convicted of being insane, and that insane people who were not "dangerous" should be protected from the efforts of their friends or relatives to have them confined in some institution. This should imply, at least, the belief that all insane who were not "dangerous" could be cared for better at home than in an institution.

This matter involves the legal question of restraining an individual of his liberty without due process of law.

It seems to us that there are at least three important factors that should be considered in this connection:

First, the rights of the individual to his liberty.

Second, the rights of the public to protection, and

Third, what is advisable in the way of treatment in order that the patients may have the best chance of a cure, or what care shall be exercised to prevent the patients from doing harm to themselves.

These three phases should be considered in adjusting the matter, and not only the protection be given individuals against sinister and malicious efforts to get them out of the way by confining them in an asylum, but consideration should also be given those who are making an honest effort to do the best possible in the way of care and treatment for friends who are suffering with mental disease.

It appeals to us that the opinion of a specialist on mental disease, in regard to both the mental condition and the advisability of hospital care in every case of supposed insanity, would be a very desirable thing in settling this question.

It is not our purpose, however, to discuss this law or its evident attitude toward the placing of cases of mental disease in hospitals for care and treatment, although we believe that the law is wrong and should be made to conform to the modern idea of the treatment and care of persons suffering with mental disease.

The time has long since passed when educated people look upon hospitals for the insane as places of "last resort," only; places of confinement for the incurable and dangerous lunatics. Hospitals for the insane are not so unlike medical hospitals in their purpose. Cases are received and treated with the hope of cure in both, and the incurable cases are carefully cared for while they live in each.

We wish, however, to make clear the legal technicality of committing an insane patient to an institution in this State, under the existing law. It is simply with the desire to be of service to the physicians of the State. As we have said, the law states distinctly that "demented persons who are not dangerous *shall not* be confined in a hospital for the insane." The physician's certificate for the commitment of a patient to a hospital for the insane must therefore not only certify that the individual is insane but also that the individual is "dangerous."

The term "dangerous" may be applied in various ways under the law, viz.: dangerous to the public, physically or morally; dangerous to themselves either from personal injury or endangering their chances of recovery, etc., etc.

The certificate is simply a "written opinion under oath of the physician that the person is insane and a proper subject for treatment and custody in some asylum or other institution for those so afflicted." "It is not a warrant nor a binding order on any one to commit to an asylum or to restrain the person certified to be insane." It is, then, in the nature of evidence upon which the probate court may or may not commit the person to a hospital for the insane.

This whole matter has been so thoroughly gone over in the different probate offices of the State in re-committing patients that it will probably result in amending the law at the next session of the legislature. In the meantime certificates must be made out to conform to the present law.

Hookworm disease has been brought prominently before the public recently by the gift of one million dollars by Mr. John D. Rockefeller to be used to aid in its extinction. The work of Dr. Charles W. Stiles in investigating this disease has been known to physicians who were interested in research work for many years. Now that the disease is thoroughly understood and a large amount of money is available to use in the crusade against it, we may expect decided results in ridding the south of this plague. An editorial in the Journal of the American Medical Association of November 6, is so much to the point on this subject that we print it in full:

"One of the apparently insolvable problems of the South for generations past has been the 'poor white.' Historians have asserted that he was of the purest Anglo-Saxon blood—the same stock which rose to eminence in many a Southern and New England family of long lineage and high social standing. Yet his usefulness as a worker and his gradual, but apparently hopeless, degeneration have been generally admitted, though unexplained. In 1902 Dr. Charles W. Stiles, Chief of the Division of Zoology in the Hygienic Laboratory, announced that the poor white was not a wilful degenerate, but a helpless invalid, and that the cause of his condition was the *Uncinaria* or hookworm, an intestinal parasite, probably brought from Africa by slaves many generations ago. Estimates made by Dr. Stiles showing the wide-spread distribution of the disease and the enormous number of its vic-

tims (at least two million), while received with incredulity at first, have since been independently confirmed by other observers. This discovery is one of the greatest triumphs of medical laboratory work in this country, and is another illustration of the great value of laboratory researches in public health matters. If the Hygienic Laboratory in its entire existence had made no other contribution to medical knowledge, this work alone would more than justify its establishment.

It would naturally be supposed that the conclusive evidence presented by Dr. Stiles, showing not only the cause but the remedy, at once would have resulted in vigorous efforts on the part of the government to eradicate this disease, the effects of which have played so important a part in the economic and social life of a large section of the country. Yet seven years have elapsed since both the cause and the remedy became known and no steps could be taken for the extermination of this parasite—fittingly named by Dr. Stiles *Necator americanus*—"the American murderer"—because there seems to be no law authorizing the expenditure of money by the national government for this purpose. How different would it have been had the lives and health of a few million horses, cattle or sheep been involved instead of merely a few million human beings! Nothing could better illustrate the need of a bureau of public health, authorized and equipped to carry out at least an aggressive campaign of education regarding the cause, prevalence and remedy of such diseases.

But where the State has failed the individual has come to the rescue. Mr. Rockefeller's magnificent gift of one million dollars to combat hookworm disease in the South is characteristic of the times and of the man. In previous generations and ages, benevolent and charitably inclined persons gave money for the establishment of hospitals, asylums and institutions for the treatment of the individual. The charity of the middle ages as well as that of the modern civilized world until recently consisted primarily in relieving the sufferer without regard to the conditions or causes underlying and responsible for his disease or misfortune. The plagues of the middle ages were accepted as visitations of God, as scourges inflicted by the Almighty on a sinful world. They were not to be avoided or prevented, and the charitably inclined could only hope to relieve a few of the victims. To-day the ravages of disease are recognized as due to the ignorance or carelessness of human beings, to be controlled, and if possible suppressed, by education and care. It is significant and characteristic that an American business man, successful above all others in organizing gigantic mercantile machinery of world-wide scope, should be dissatisfied with palliative methods of relief which deal with the accidental and symptomatic, rather than with the essential and causative factors. This gift is not the result of a sporadic or accidental impulse. It is in harmony with the modern spirit to regard the problem from the standpoint of society rather than that of the individual, and to seek to abolish disease as a factor in the social equation, rather than merely to relieve the accidental victim. The diversion of this vast sum from private means to public usefulness is also significant and gives promise of the development of a spirit of new philanthropy.

As far as the medical profession is concerned, there can be but one feeling regarding Mr. Rockefeller's gift, that of gratitude for his generosity mingled with admiration for the insight and sagacity of the business man who could so clearly see the necessity of striking at the root of the evil. That the money will be wisely and effectively used is guaranteed by the character of the men composing the commission, as well as by the positive demonstration of the curabil-

ity of the disease. The establishment and endowment of the Commission on Hookworm Disease will do much to arouse interest in public health matters in this country, since it is well known that Mr. Rockefeller exercises the same discriminating care in benevolent and educational contributions that he does in his private business affairs. The fact that he considers the present situation so urgent as to justify the expenditure within five years of a million dollars should furnish food for serious reflection to those responsible for public health legislation. Great sanitary problems, involving the efficiency, health and lives of millions of people, are certainly proper subjects for consideration by the State, yet there is to-day no law authorizing the national government to do such work as Mr. Rockefeller has undertaken personally. The country is to be congratulated that it has private citizens who can undertake a work of such magnitude, yet it is not to our credit as a nation that such crusades against disease must be financed by individuals. It should not be necessary for the individual to do the work of the nation."

NEWS ITEMS.

The physicians of Springfield have organized a Clinical Society with Dr. B. A. Chapman as president, and Dr. C. H. Hazen as secretary. The fees of the Society have been raised and the Society is planning to do something in the way of Post-Graduate work during the winter.

Dr. and Mrs. Gardner C. Hill, of Keene, N. H., have gone to Southern California to spend the winter.

Dr. B. H. Stone, Director of the State Laboratory of Hygiene, who has been spending three months in Vienna studying Pathology, has returned.

Dr. C. H. Beecher of Burlington read a paper before the monthly meeting of the Orleans County Medical Society at Orleans the first of this month. This county has a flourishing organization, over twenty were present at this meeting.

The University of Vermont College of Medicine opened its fifty-seventh annual session the second of November. In spite of the fact that this department has lengthened its course until it now has a full eight months' course and has also raised its standard of both preliminary and medical education, the entering class this year was the largest in many years, eighty-five men being registered in the freshman class. This is a good index of the reputation this department of the University has gained.

Dr. Allen Henry Wright of Stamford, Vt., and Miss Charlotte Frances Park, daughter of Judge Park of Waterloo, N. Y., were married November 17, 1909.

At the annual meeting of the Staff of the North Adams General Hospital, Dr. A. H. Wright was elected a member of the surgical staff and appointed surgeon to the hospital for the month of August.

Dr. Charles A. L. Reed has resigned as a member of the committee on Medical Legislation of the American Medical Association, his resignation being due to the pressure of his professional work. Dr. Reed has been a valuable member of this committee and his efforts in bringing about important legislation along health lines will be missed.

The American Medical Association is trying to educate the public with respect to the nature and prevention of disease, and it has recommended that all local medical societies, which are in reality integral parts of the American Medical Association, hold one or more open meetings during the year to which the public shall be invited. These meetings to be devoted to a discussion of the nature and prevention of disease and to the general hygienic welfare of the people.

THE ANNALS OF SURGERY ISSUES ITS FIFTIETH VOLUME.

On January 1st, 1885, there appeared in the literary medical world the first number of a new journal, given up entirely to general surgery. This radical departure from the old lines had the full endorsement of a large number of the leaders in surgery, both in Great Britain and the United States, among whom was Lord Lis-

ter, whose name led all the rest on the title-page. The seed was good, the soil fertile, and the journal grew and prospered. To-day it's the Annals of Surgery of Philadelphia. In December it blooms—blooms in full, and its subscribers will be treated to a choice collection of twenty-two original articles in the form of a jubilee number.

Eminent surgeons from England, Scotland, Denmark, France, Italy, Hawaii, Canada, and the United States will contribute to this issue. Truly the editors and publishers deserve great praise for so fitly rounding out this the fiftieth volume.

About fifteen per cent. of the people who die in the District of Columbia from tuberculosis contract the disease as a result of drinking milk furnished from dairies in and around Washington, according to a declaration by Health Officer Woodward.

TREASURY DEPARTMENT, BUREAU OF PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.

Washington, D. C., December 2, 1909.

A board of commissioned medical officers will be convened to meet at the Bureau of Public Health and Marine-Hospital Service, 3 B street S.E., Washington, D. C., Monday, January 24, 1910, at 10 o'clock a. m., for the purpose of examining candidates for admission to the grade of assistant surgeon in the Public Health and Marine-Hospital Service.

Candidates must be between 22 and 30 years of age, graduates of a reputable medical college, and must furnish testimonials from responsible persons as to their professional and moral character.

The following is the usual order of the examinations: 1, physical; 2, oral; 3, written; 4, clinical.

In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate.

The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists in examination in the various branches of medicine, surgery, and hygiene.

The oral examination includes subjects of preliminary education, history, literature, and natural sciences.

The clinical examination is conducted at a hospital, and, when practicable, candidates are required to perform surgical operations on a cadaver.

Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur.

Upon appointment the young officers are, as a rule, first assigned to duty at one of the large hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco.

After four years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon.

Promotion to the grade of surgeon is made according to seniority and after due examination as vacancies occur in that grade.

Assistant surgeons receive $1,600, passed assistant surgeons $2,000, and surgeons $2,500 a year. Officers are entitled to furnished quarters for themselves and their families, or, at stations where quarters can not be provided, they receive commutation at the rate of thirty, forty, and fifty dollars a month, according to grade.

All grades above that of assistant surgeon receive longevity pay, 10 per cent in addition to the regular salary for every five years' service up to 40 per cent. after twenty years' service.

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses.

For further information, or for invitation to appear before the board of examiners, address "Surgeon-General, Public Health and Marine-Hospital Service, Washington, D. C."

Double Pneumonia.

BY H. S. EMERSON, M. D., OF PATERSON, N. J.

Mrs. E. D., aged 74 years, of New Durham, N. J., was taken ill in February, 1905. A local physician diagnosed the case as one of acute lobar pneumonia (both lungs) with grave complications. The third day found the patient much worse, and her attending physician and a consultant said there was no possible chance for recovery. At this critical moment, I was

called in after the other medical men were out of the case.

I found the patient unconscious with marked consolidation of both lungs, stertorous breathing, temperature 105-3-5°, pulse 142—feeble and irregular, respiration 35, and every indication of complete prostration. The previous treatment had consisted of an ordinary fever and cough mixture, French brandy at frequent intervals, and the local application of flaxseed to the chest. Little or no nourishment had been taken.

I suggested the immediate discontinuance of the flaxseed, which apparently had no effect, but was merely sapping the little vitality which remained.

My treatment was as follows:

The immediate substitution of Antiphlogistine in place of flaxseed to the thorax, front, back and sides at intervals of eight to ten hours, and hypodermics of digitaline and whiskey at proper intervals.

The following morning found the patient slightly improved, fever 104°, respiration 28, pulse 132, and still unconscious. I was delighted, however, to find that ten hours afterward she had regained consciousness and that the general symptoms were still further improved.

I then ordered nourishment in the form of milk, broths, etc., and the addition of aconite to the treatment. From that time on the patient continued to improve daily with no further aggravation of the symptoms, and at the expiration of two weeks she had quite recovered.

While I am willing to give the digitaline, whiskey, aconite and nourishment proper credit for their part of the work, I am thoroughly convinced, and do not believe I could be persuaded to the contrary, that the persistent and proper use of Antiphlogistine was responsible for the woman's recovery.

Extract of Corpus Luteum in Disturbances of Artificial and Physiologic Menopause.—Morley, in the November number of the *Journal of the Michigan State Medical Society*, reports his results in 18 cases. This report is a continuation of the one that appeared in the August number of the *Detroit Medical Journal*. The author used an extract made from the corpora lutea of beef ovaries rather than an extract of the entire ovary, as the consensus of opinion seems to be that the internal secretion of the ovary is produced by the yellow body. The extract is given in five grain doses, three times a day, one-half to one hour before meals. His results in 18 cases may be summed up as follows:

Five were cured, 12 were improved and one obtained no relief. Included in the 12 cases that were improved are grouped those that are still taking the extract. A permanent cure may result in a few of the cases under treatment. Of the 18 cases, 14 suffered from disturbances of operative or artificial and four from those of natural or physiologic menopause. While the results obtained in so small a group of cases do not warrant the drawing of any definite conclusions, still the author thinks that the results are favorable enough to justify a continuance of the treatment in other cases, where there is a disturbance incident to artificial or physiologic menopause.

BOOK REVIEWS.

Obstetrics.—A Manual for Students and Practitioners. By David J. Evans, M. D., Lecturer on Obstetrics in McGill University, Montreal; Fellow of the Obstetrical Society of London. New (2d) edition, enlarged and thoroughly revised. 12 mo., 440 pages, with 169 illustrations. Cloth, $2.25 net. Lea & Febiger, Philadelphia and New York, 1909.

This manual is one that can be recommended to students and practitioners who desire a small book in which the subject is compactly arranged. In this edition many of the chapters have been entirely rewritten, particularly the chapters on Implantation of the Ovum, the Development of the Placenta, and Toxaemia. The illustrations are good and it should be a very popular book.

A Manual of Chemistry.—A Guide to Lectures and Laboratory Work for Beginners in Chemistry. A Text-book specially adapted for Students of Medicine, Pharmacy and Dentistry. By W. Simon, Ph. D., M. D., Professor of Chemistry in the College of Physicians and Surgeons, Baltimore, and in the Baltimore College of Dental Surgery; Emeritus Professor in the Maryland College of Pharmacy; and Daniel Base, Ph. D., Professor of Chemistry in the Maryland College of Pharmacy. New (9th) edition, enlarged and thoroughly revised. Octavo, 716 pages, with 78 engravings and 9 colored plates, illustrating 64 of the most important chemical tests. Cloth, $3.00 net. Lea & Febiger, Philadelphia and New York, 1909.

The fact that a text-book has reached its ninth edition is proof of its value. Simon's

Manual of Chemistry as a book for both students and physicians certainly needs but to be seen to be appreciated. Starting with the elementary principles of chemistry, it embraces in one volume inorganic, analytical and organic chemistry, physiological chemistry and urine analysis, each subject being taken up with sufficient fulness for the needs of those not distinctly specialists. The colored plates of reactions which have characterized former editions are continued in this.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

INFANTILE ECZEMA.

I. A. Abt, Chicago (*Journal A. M. A.*, September 11), says that the etiology and pathology of infantile eczema are but little understood and that we should be careful not to confuse it with other skin eruptions due to irritation. The most rational view, he says, based on clinical observation, is to consider eczema an external manifestation of some internal disorder. Constitutional conditions are the underlying cause and the presence of bacteria in the external lesions may result from secondary infection and not hold any causal relationship. The various views held by authorities—that it is due to underfeeding, or overfeeding, metabolic disturbances, etc.—are stated. The French authors lay considerable stress on hereditary influences and that parental arthritis, gout, obesity, asthma, and various neuropathic conditions tend to favor eczema in the offspring. That this view is based on facts, Abt says, is corroborated by every observer's clinical experience. Gaucher finds an inhibition of metabolism in every case and regards eczema as an autointoxication, the poisons being eliminated through the skin. The symptoms, according to the classification of Marfan, are described. In the first form there is the wet or crusty eruption on the scalp, cheeks or ears which has been known as milk scab, the limbs and trunk usually being free. If neglected, it may extend however over the whole body. This form is most often of the seborrheic type and, while treatment is difficult, spontaneous cure may occur at the end of the first year when the quantity of milk of the artificially fed infant is reduced. The second form is described by Marfan under the name of disseminated dry eczema, and the history obtained is usually that of an overfed infant who is thin and delicate, suffering from chronic intestinal and nutritive disturbances. There are dry scaly infiltrated islands of crust with papular and pustular lesions, and sometimes moist areas. The face is most involved, the scalp only slightly. Unlike the other form there is usually itching, which is very refractory to treatment. It has been suggested that this is the gouty form. Among the complications of infantile eczema is albuminuria, with or without kidney involvement. These are undoubtedly due to toxic absorption and more attention to the heart complications has been advised by many writers. The clinical symptoms rarely indicate a fatal ending and postmortem may not reveal the cause of death. It has been held by some that a myocardial degeneration may exist, and others hold that it may be due to the status lymphaticus. An etiologic relationship between eczema and asthma has been strongly indicated in several reported cases. The treatment is given in some detail by Abt. Locally the crusts can be removed by softening with ointment but in the scalp it should be gradual to prevent serious results. Powders and pastes of zinc oxid and, in severe dry cases, some tar ointment are useful. Sulphur baths are sometimes useful. The constitutional treatment consists, in the main, in the regulation of the diet and attention to the intestinal disturbances and digestion. Good results have been reported from what is known as Finkelstein's soup, which is made of coagulated milk and oatmeal water, but Abt does not recommend it. Czerny emphasizes the need of treating any underlying hereditary factor. On the whole, it may be said that a milk-poor restricted diet with addition of cereal, and the exclusion of eggs and meat broths, as a rule, yields good results in a short time. Older infants should be also given fruits and vegetables.

FOOD PRESERVATIVES.

D. H. Bergey, Philadelphia (*Journal A. M. A.*, September 4), reproduces the terms defining adulteration in the pure food law and the food inspection decisions that have been made since the enactment of the law, and strongly condemns that one which permits the use of benzoate of sodium. He gives the data as regards the various state laws regulating food preservatives, especially this substance, and reports his own experiments, made in order to perfect a simple and speedy test for its detection. The studies of Bliss and Novy show that, of the ordinary digestive ferments, trypsin is injured to the greatest extent by formaldehyd, aside from the effect of the preservative on the food constituents themselves. For this and other reasons, he regards trypsin as a delicate indication of the presence of preservatives in foods, and carried out his test experiments by the addition of small amounts of the food to a definite volume of a sterile solution of casein, determining the inhibiting influence of the preserved food on the tryptic digestion of the casein by the addition of a few drops of an alcoholic solution of acetic acid to the mixture at the end of a period of digestive action. The results are given in tabular form. The test does not give him satisfactory results in every particular, since the employment of this test must be carried out in such a way as to eliminate normal antifermentative effects in the food substances and attempts to remove these normal antiferments may lead to the simultaneous removal of the preservative. In view of our knowledge of the detrimental results of chemical food preservatives there is no worse practice than permitting their use in any quantity and we should not let the wishes of unscrupulous manufacturers and dealers overrule our knowledge in this regard.

THE CURE OF THE DRUG HABIT.

A. Lambert, New York (*Journal A. M. A.*, September 25), describes the treatment devised by a layman, Mr. Charles B. Towns, of New York City, which he has known of for five years, but of which the specific has been a secret until the late Opium Congress at Shanghai, at which Mr. Towns made known

all the details. The specific in the treatment is the old 15 per cent. tincture of belladonna and the fluid extracts of xanthoxylum (prickly ash) and the fluid extract of hyoscyamus, mixed in the following proportions: tincture of belladonna 62 grams (℥ii), fluid extract of xanthoxylum and fluid extract of hyoscyamus *aa* 31 grams (℥i). While this specific is being given the patients do not suffer from the intense diarrhea which usually accompanies the withdrawal of morphin but, on the contrary, they require energetic purpation. He prefers for this purpose the compound cathartic pills of the Pharmacopeia and the vegetable cathartic (B. P.) pill, to which he adds minute doses of capsicum, ginger, and croton oil. He gives the treatment in detail. After cleaning out the bowel with 4 carthartic pills and 5 grains of blue mass and an enema, he begins with the specific, giving from 6 to 8 minims at a dose, every hour throughout the treatment, or until some sign of a belladonna intoxication is observed. Every 6 hours he increases the dose by 2 minims but does not go above 16 minims at a dose. If signs of intoxication appear he stops the specific until the symptoms subside and then begins again with 8 minim doses, except in very susceptible patients in whom 4 or 5 minims may do. He gives with the first dose of the specific, from one-half to two-thirds of the usual daily dose of morphin or other drug in 3 doses at half-hour intervals and waits 14 hours and then repeats the cathartic dose and again repeats it 6 hours later omitting the blue mass. It is essential that the cathartic should act at this time and it is astonishing how difficult it is sometimes to induce cathartic action. He says: "After the bowels have acted, but not before, one-third or one-half the original dose of the narcotic may be given. This will make the patient comfortable and contented and ready for the final stage. Twelve hours after the second dose of the narcotic again give 4 compound cathartic pills or from 4 to 6 B. P. pills with 5 grains of blue mass, and 6 hours later give an ounce or more of castor-oil disguised in coffee or orange juice, but not in whiskey. Just before the castor-oil acts, one may have to give from 2 to 5 grains of codein phosphate, hypodermically or by mouth, to quiet the nervousness and discomfort. This is not always necessary, but it adds to the comfort of the patient and does not tie up the secretions as does opium or morphin. The castor-oil at this time will produce a characteristic stool, which shows that the entire treatment may cease. This is a liquid green stool, composed of mucus and bile. When this stool occurs, or shortly afterwards, the patient often will feel suddenly relaxed and comfortable, and the previous discomfort ceases. The transition from discomfort to relaxation and contentment is often strikingly marked. After the patient has been under treatment for 30 hours, one should begin to give some cardiac stimulant, such as strychnin, 1/30 to 1/60 grain, every 3 hours, or digitalis or strophanthus, either one of these, separately or in combination. These tend to overcome the relaxation of the vascular system, which in these patients often produces a feeling of exhaustion." The diet of these patients during treatment should be regular and of easily digested food. After they have completed the course of treatment the appetite becomes ferocious and care must be taken that they do not overeat. The treatment of alcoholics with this specific differs slightly though the same dosage is used, though not for so long a time as a rule. Most alcoholics are more sensitive to belladonna effects and the symptoms of intoxication must be looked out for and attended to. Very often the patients are taking several drugs in combination and this should be taken into consideration in the allowance of the narcotic. When cocain and morphin are taken together the initial dose of morphin should be smaller than above stated. Cocain is itself so strong a stimulant that when it is withdrawn it is often necessary to give a stimulant like strychnin from the very beginning. All that is claimed for the treatment by Lambert is that it will destroy the craving for the narcotic drug or alcohol, which is often so difficult to overcome. He gives a tabulated statement of the treatment in a number of his cases.

ANESTHESIA AND ITS DANGERS.

D. C. Moriarita, Saratoga Springs, N. Y. (*Journal A. M. A.*, September 4), says that he has reached the conclusion of many others, *i. e.*, that the danger of anesthesia is largely due to the anesthetist. He does not mean by this that some anesthetics are not in themselves more dangerous than others, but rather that the average patient can more safely take one of the dangerous anesthetics given by a skillful man than one of the safest given by an indifferent practitioner. He asks what percentage of the practitioners have had clinical training or instruction in the administration of anesthetics. He has seen some of the most atrocious performances in this line in the last two years. The profession does not sufficiently realize its responsibility in this matter and he maintains that there is no justification for serious complications following anesthesia unless we know that it was a competent man who administered it. We should raise the standard of the whole profession in this regard. There is a safe and proper technic and the anesthetist should know the action and peculiarities of the drug he uses and give his whole attention to watching his own proper duties during the whole time he is employed. He should be in no hurry, should determine for himself the condition of the lungs and heart, and if not previously informed should ascertain the urinary condition. He should learn also whether there are loose teeth in the mouth and see if the patient is properly clothed. He should employ the method and the anesthetic with which he is thoroughly familiar and with which he can safely produce the lightest anesthesia under which the operation can be performed. Moriarta thinks that talking to the patient while getting him under the anesthetic is an advantage. He should never order the patient to take a deep breath, should have the necessary emergency remedies at hand and remain with the patient until he is safely in bed and in good hands. In conclusion he makes the recommendation that the Commission on Anesthesia of the American Medical Association should formulate special directions for the guidance of the general practitioner in anesthesia, concise but sufficiently in detail, giving him a method which he can adopt and feel sure that he is backed by good authority.

THE ORIGIN OF TABES.

J. J. Putnam, Boston (*Journal A. M. A.*, September 25), says that, while the opinion that syphilis is the usual cause of tabes is now almost universally accepted, there still remains a certain percentage of cases for which definite proof of this etiology is

lacking and other causes are sometimes suggested. The most prominent of these is fatigue, not that which is felt but in Edinger's sense, *i. e.* the physiologic overstrain of certain portions of the nervous system carried to the point of damaging its power of nutritive repair. The questions therefore as to the part played by fatigue and whether or not syphilis is the sole cause are still debatable and Putnam attempts to throw some light on them by contrasting the tabetic group of cases with another group, bearing clinically and also as regards the location of lesions, a certain resemblance to tabes and which, like tabes, owe their characteristics to certain toxic influences, yet which, when intimately studied, are seen to differ widely from tabes. The cases to which he refers are those presenting anatomically that form of degeneration of the nervous system which sometimes accompanies pernicious anemia and which occur in conditions of nutritive debility not easily classifiable in one catagory. The nervous symptoms characteristic of these cases resemble those of tabes in affecting primarily and mainly the sensory or afferent functions of the nervous system and leading to well marked incoordination and paresthesias, usually with loss or sometimes increase of the knee jerks. While he has seen nearly or quite a hundred instances of this disorder he has never yet encountered a single case of undoubted syphilis among them, thus differing widely from tabes and strengthening the evidence that syphilis in the latter disease can not be merely a coincidence. The two disorders run true and maintain their special differences without overlapping or even approaching each other, and, in view of these considerations, he thinks that the argument for a special toxin or autotoxin as the essential cause of tabes, while not proved or asserted to be positive in every case, is nevertheless very strong and deserves special recognition as a guide to treatment.

INFANT FEEDING.

The science of infant feeding, says H. G. Chapin, New York (*Journal A. M. A.*, September 18), consists in knowing why certain things should be done or should not be done and the effects of different procedures. The art of infant feeding comprises the methods employed. Most of the literature is related to the art and many diverse methods have been proposed. The infant is an animal and subject to the general laws of animal nutrition and, like other young mammals, is as regards its digestion, in an embryonic state for some time after its birth. The food supplied by the mother has the property of changing its physical form when it comes in contact with the gastric secretions. It assumes a more or less solid form in the stomach and the character of this solid varies as the stomachs of the different species vary, the milk of rapidly growing animals containing more protein than that of animals of slower growth. The adaptation of milks to the infant stomach must be done according to biologic laws which calls for a knowledge of the structure and functions of the digestive tract together with the peculiarities of the milk furnished. A chemical analysis of milk will show its ingredients and to a certain extent their potential food values. Farther than this, chemistry cannot go. While the fats and carbohydrates are a good deal alike in the different milks, proteins are essentially different and we must study the reactions of the proteins to the digestive secretions and then examine these reactions in relation to the growth and development of the digestive tract—in other words, investigate the question biologically before we can understand the problem. A certain portion of the proteins of all milks coagulates on coming in contact with rennin or rennin and acid, but the manner and extent of this coagulation is in direct relation to the proper evolution of the animal. While there are many grades of coagulability in the milks of different animals, for practical purposes we may distinguish three grades and consider their significance. In the ruminant herbivora, such as the cow and goat, the protein coagulates in solid tough masses that can not easily leave the stomach where digestion largely occurs. In the nonruminant herbivora, such as the horse and the ass, the protein coagulates in gelatinous masses that can easily leave the stomach and digestion is largely intestinal. In human milk the curd is thrown down in flocculent masses midway between the two just described and the digestion is largely carried on in the intestines. Biologic science thus shows that the protein must curd in a specific way in each species of animal, it being the least interchangeable of the components of milk. We must also remember that the protein has a development as well as a nutritve function to perform and we must not, while putting all food in a soluble form for quick absorption neglect to give proper work for the secretions and musculature of the digestive organs. Chapin gives illustrations showing how we should adapt milk for artificial feeding. We should allow for some of the protein to be thrown down in more or less solid form to develop the motility of the digestive tract. If there is evidence of weakness there already by the appearance of curds in the stools, a substance like citrate of sodium added to the milk may be scientifically indicated for a time, though as a routine measure for normal infants it would be unscientific. Antacids are also contraindicated as routine measures, as there is little acid secreted in the infant's stomach, though they might be indicated to correct abnormal conditions of acidity. These illustrations show, that if we understand the science of infant feeding, the methods to be used under different conditions will be self-evident, which will never be the case as long as chemical data alone are taken as a guide. The point ever to be kept in mind is "what is the effect of a proposed method and does it apply correct scientific principles?" Many of the methods which have been proposed are good for individual cases and may be scientific under certain conditions, and methods that are scientific under ordinary conditions may be unscientific under abnormal ones.

TUBERCLE BACILLI IN THE BLOOD.

W. V. Brem, Cristobal, Canal Zone, (*Journal A. M. A.*, September 18), says that in view of the recent publications by Rosenberger and the remarkable results he obtained, it seems worth while to report a similar investigation by himself in November, 1908, before he had seen Rosenberger's paper. He describes his technic, which was carefully devised to avoid possible sources of contamination. Some of his results, however, seemed so remarkable to him, as regards the ease with which positive results indicating bacillemia were obtained, that he could not accept them without question, and sources of error were constantly being sought. The real source was found by the simple device of fixing to

the slide with egg albumen the sediment from distilled water in the laboratory jar. In traversing the smear once, about 600 acid-alcohol-resisting bacilli were found. Smears made with egg albumen alone were negative. He then had distilled water made in the laboratory and obtained negative results where he had obtained positive before. He thinks it probable that contamination of distilled water occurs frequently in laboratories where animals are kept. He sums up his paper as follows: "1. In examining blood, urine, stools, sputum and exudates for tubercle bacilli, the greatest care should be used to exclude contamination of water and all solutions used with members of the acid-resisting group of bacilli (whether dead or alive). 2. In this investigation, coincidences occurred which were all but convincing of the presence of tubercle bacilli in the blood in every case of tuberculosis. 3. Animal experimentation was negative, but the quantity of blood used for inoculation was too small for the results to be of great value. 4. Acid-alcohol-resisting organisms were found eventually in fresh distilled water furnished by the Isthmian Canal Commission, in tap water, in old distilled water made with care in the pathologic laboratory, and in all solutions made up with the Canal Commission water. These bacilli were either dead or non-pathogenic to guinea-pigs. 5. There is as yet no conclusive proof of the frequent continued presence of tubercle bacilli in the circulating blood."

BOVINE AND HUMAN TUBERCLE BACILLI.

A. F. Hess, New York, (*Journal A. M. A.*, September 18), says it has been definitely established that the tubercle bacillus of cattle sometimes incites tuberculosis in man and it is asserted by some capable workers that the bovine bacillus can be so altered by years of sojourn in the human organisms as to simulate the human tubercle bacillus. The difficulty of studying this question comes from the fact that we are rarely able to be certain of the original source of infection and our main reliance is generally circumstantial evidence. An exception to this rule, however, is furnished by the few cases of direct inoculation in which the bovine origin is definitely established. He has with some difficulty found two cases of this character, both in slaughter-house workers, which he reports. In both cases the inoculation was definitely established and local tuberculosis nodules were similar in both. The general health was not affected, though in one case there was an enlarged hard epitrochlear gland at the right elbow. Both men submitted to have their nodules excised and inoculation experiments were made with them on guinea-pigs, which in every case developed tuberculosis. The cultures were typically bovine. He also made experiments with the object of transforming the bovine type with two bovine strains of known virulence in a medium (human placenta glycerin broth) resembling in its composition as closely as possible the human tissues. At the end of nine months the cultures made continuously on this medium were as typically bovine as ever. He remarks that the question has a practical as well as a theoretical aspect and the two need not be confused. The former considers whether it is in any way possible by a natural or artificial means to convert one type of bacillus into another type; the latter, whether the bacilli isolated from man and designated as human, have been converted in his tissues from an original bovine type. It is true that cultivation strains may be greatly changed but this is exceptional and can not be claimed as evidence of the possibility of a complete change of type. It is worthy of note also that typical bovine bacilli have been isolated from calcareous nodules of human beings where they must have existed for years without undergoing transformation. No case of primary pulmonary tuberculosis has been indisputably proved to have been incited by the bovine bacillus. If this form of disease is due in some instances to a bovine bacillus we ought occasionally to meet this type of bacillus before it has been converted into the human type, i. e., in the early stages of the disease. Not only do we know that this is not the case but that even the intermediate types are rarely met with in primary pulmonary disease. Therefore Hess considers we may from a practical standpoint disregard the question of transmutation of type. The two cases he reports he considers of interest as demonstrating the possibility of bovine bacilli existing in the human tissues many years in these cases (four and six years respectively) without any change toward the human type of the microbe. It would be interesting and of undoubted value, he thinks, to have access to similar long-standing cases and make them the subject of bacteriologic study.

SERUM DIAGNOSIS OF SYPHILIS.

H. Noguchi, New York, (*Journal A. M. A.*, September 18), explains the requisites of a rationally constructed, complement, fixation test which he says should have the quality of each reagent definitely known. He points out the defects of the Wassermann-Neisser-Bruck method in which the amount of amboceptor is unknown and variable, and of the other methods, other than his own, and gives the advantages of the latter. They are, as stated by him: "Each factor is separable, titrable, definite. The proportional quantity of each factor adjustable. Complement from guinea-pig. Can be used in fresh as well as dried state. Latter more stable. Amboceptor from rabbit immunized to human corpuscles and can be used in liquid as well as dried state on paper; latter more stable. Corpuscle suspension can be made from the blood of patient or any normal individual. Removal of serum by washing corpuscles preferable but not necessary unless fibrin ferment present. Patient's serum can be used in fresh, old or inactivated state and if necessary serum can be dried on filter-paper and examined after an indefinite length of time. Antigen prepared from normal or syphilitic tissues by alcoholic extraction and subsequent acetone fractionation. Can be made stable by impregnating filter-paper. No danger of introducing excess of amboceptor or complement. Quantity of serum to be tested is very small and so adjusted as to avoid oversensitiveness. When inactivated, four or five times the amount used. Test, like all the others, requires a trained man, but not a fully equipped laboratory as is necessary with all the other systems." The article is fully illustrated.

FOURTH OF JULY INJURIES AND TETANUS.

The seventh annual compilation of deaths and injuries resulting from the celebration of the Fourth of July (*Journal A. M. A.*, September 18), shows

150 cases of tetanus, the largest number reported since 1903 and nearly twice the total of 1908. Of this number 126 patients died. There were also 80 deaths due to other forms of fireworks, or a total of 216 killed, as compared with 163 last year. Blank cartridge wounds, which this year caused 130 cases of tetanus, cause more deaths each year in the celebration of the Fourth than all other factors combined. In seven years 794 deaths were caused by this factor. Most of the victims were boys from 6 to 18 years of age, and they were doomed to die the most awful death known to medical science. Yet all this is preventable if city governments will enforce the proper restrictions. This year, aside from tetanus, 37 persons were burned to death by fire from fireworks, most of these being girls and small children. In some instances the fire was caused by small-sized fire crackers and the so-called harmless sparklers. There were 17 deaths from gunshot wounds, 16 by explosions of powder, torpedoes, dynamite, etc., 6 from giant firecrackers, 7 from cannons and 6 from other causes. There were also 5,092 non-fatal injuries, the grand total of killed and injured being 5,306, a few less than last year. In seven years, the total number killed was 1,532, including 902 deaths from tetanus, and 33,072 were injured. Of those injured, 115 were completely blinded, 518 lost one eye each, 406 lost legs and arms or hands and 1,427 had one or more fingers torn away. Thirty regiments of human beings mutilated for life! What an awful tribute to pay for the privilege of celebrating our national Independence Day.

Philadelphia had 9 deaths, the highest number reported this year for any one city, New York had 7 deaths and Boston and Pittsburg each had 5 deaths. Cleveland, which had 12 deaths last year passed a prohibitory ordinance, so that this year no deaths were reported. Chicago likewise had 12 deaths last year, but through the rigid enforcement of a restrictive ordinance this year, no deaths were reported.

Sentiment for a more uplifting and profitable celebration of the Fourth of July is decidedly on the increase and even restrictive measures were better enforced in certain cities than ever before. There still remains, however, too much indifference on the part of city governments, on which the real responsibility for these deaths and injuries rests. Above all things, the use of blank cartridges and blank cartridge pistols should be entirely prohibited. This would reduce the deaths to less than half what they are now and do away with most of the agonizing deaths from tetanus.

Registration of Nurses.

Editor New England Medical Monthly:

For some years it has been apparent to many leading physicians throughout the country, that the medical profession would be obliged to exercise its right and privilege of directing and controlling the business of nursing. This necessity has become still more apparent in recent years by the baneful effects of the so-called "State Registration" movement.

Few physicians can be found who have not had unfortunate experiences with the meddlesome and prescribing nurse. The declaration of many physicians that the state registration movement tends to develop wholesale quackery, and to create a class of insubordinate nurses, with a show of legal authority to apparently justify their claim to equal privilege in directing the affairs of the sick-room, is undoubtedly true. The state registration movement has also tended to place the control of nursing in the hands of a few dictatorial persons, whose desire seems to be to limit the supply of nurses to hospitals, and to so manipulate and elevate prices, as to prevent the poor and the great middle classes from securing adequate nursing assistance.

The physician's national board of regents will classify and list all nurses who are willing to pledge themselves to abide by the instructions of the attending physician, and not attempt to play the role of doctor. Four classifications will be made.

1. Commissioned and official nurses. (Those having completed a two years' course or more in a general hospital or training school).

2. Approved nurses. (Those having completed a two years' course in a special hospital).

3. Attendant nurses. (Those engaging in nursing, after having had only a theoretical or correspondence course of instruction).

4. Provisional nurses. (Those having been engaged in nursing for a year or more, i. e. the so-called practical nurse).

It is intended to publish and have on file at every county medical society and available also to individual physicians, a national calendar of nurses, showing classification and credentials. Ample resources have been provided to insure the execution of these plans.

Very respectfully,

Eugene Underhill,
President.

Philadelphia, Pa., August 18, 1909.

Cremation.—A testator alleged to be eccentric has secured for himself the surety of this mode of disposal of his physical body by directing that unless cremated, his money should be diverted from his heirs to charity; the heirs sensibly decided they had no money to burn.—*Medical Times.*

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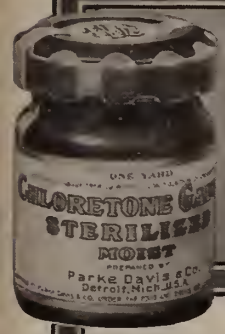
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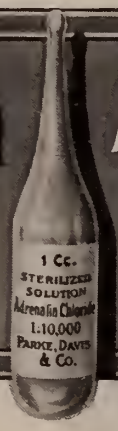
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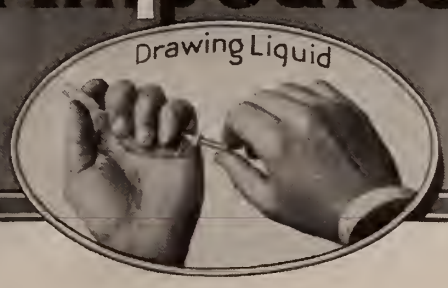
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DIRECTIONS—Break off the neck of the ampoule at the file-mark, as shown in the illustration. Use an ordinary hypodermatic syringe. Insert the point of the needle behind the shoulder of the ampoule—*not to the bottom.* (See cut.) Elevate the bottom of the ampoule as the piston of the syringe is withdrawn, and the contents can be removed to *the last drop.*

Marketed in boxes of 1 dozen.

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THERAPEUTIC NOTES.

Sleep and Digestion.—G. M. Niles, Atlanta, Ga. (*Journal A. M. A.*, June 26), discusses sleep and its relation to digestion. As to the actual influence of sleep on digestion however, there is some conflict of opinion, and he endeavors to cover the subject in a manner helpful to those interested in practical dietetics. It is a well-known physiologic fact that the elimination of carbon dioxid and absorption of oxygen are diminished during sleep, mainly because the muscles are less active. Tigerstedt places the ratio of metabolism between the sleeping and waking states as 100 to 145, but asserts it to be dependent on cessation of voluntary movements: "for it may reach just as low a level in the waking condition, if the muscles be completely relaxed and every voluntary motion suppressed. While other secretions are diminshed during sleep, this does not apply to those of the digestive apparatus. When the brain is alert, the reflexes on guard, and the voluntary muscles at work, each department of the human economy is calling for its quota of innervation and blood; these different departments are exacting their tribute from the constructive forces and turning over to the excretory organs the products of combustion and waste. During this period the digestive department can draw only a "working interest," not being permitted to put away any appreciable surplus, until the day's activities are ended, sleep stills the voluntary movements, decreases the carbon dioxid output, and makes the least demand on the involuntary vital mechanism. It is then that Nature, our industrious handmaiden, begins her constructive housekeeping. "She does it in an orderly cooperative way, following a regular method of work in repairing waste, actively forming new tissue, and giving just the proper amount of care and nourishment required of all parts, both mental and physical, in regular sequence." Niles does not advocate heavy meals at night, or articles of food calculated to tax digestion, but states that a certain amount of food in the stomach, the digestion of which, in drawing from the brain a portion of its blood, keeps busy the nerve centers concerned, indirectly quiets other nerve centers which otherwise might exert a wakeful influence. Many sufferers from insomnia well know the happy effect produced by taking hot milk or cocoa, or a light repast just before retiring. The following are some general suggestions as to dietetic recommendations in relation to sleep: The young infant can not get too much sleep, and this is best attained by filling his stomach at stated intervals. Vigorous, growing children and those engaged in manual labor thrive on a full breakfast and dinner, these two meals containing most of the daily quota of proteids. The supper may be plentiful in quantity, but should consist of such articles as bread, milk, cereals, eggs, fruits, etc., which do not unduly stimulate the nerve centers by their metabolic products. Soups, rich extractives and solid proteids also cause the bladder to be filled with urine rich in waste products and very acid, this being a factor worth considering.

Those who labor with their brains, or skilled artisans whose crafts demand mental tension and but little muscular effort, will find their efficiency best subserved by a light breakfast, a slightly more plentiful lunch, and at the close of the day's work a generous meal, provided that after it three to five waking hours are allowed, so that the psychic reflexes may have an opportunity to contribute their share to the processes of digestion. For the leisure class or those who keep late hours and often burn the candle at both ends, it is advisable to take a light repast in bed at 10 a. m. to 12 noon, a hearty dinner at 5 to 8 p. m., and a moderate supper, with not too stimulating or alcohol-containing beverages at 11 or 12 p. m.

Chloroform in Hemoptysis.—Joseph B. Fish, Edgewater, Colo. (*Journal A. M. A.*, June 12), after referring to a previous paper on the successful use of chloroform in pulmonary hemorrhage (*Journal A. M. A.*, March 13, 1909, page 883), says that he has continued his experiments and now practices this treatment alone in such cases. The effect of chloroform on the circulation is chiefly to decompress the vasomotor system, causing an extraordinary fall of blood pressure. Complete vascular relaxation follows and the patient, so to speak, is bled into his own vessels. There is also some cardiac enfeeblement and dilatation, which also contribute to lowering the blood pressure. Chloroform has also a depressant effect on the respiration, and, as it produces the coagulation of the blood *in vitro*, it is possible that some direct contact with the bleeding point by the vapor may also have some effect. He describes his mode of administration of from 2 to 4 c.c. of chloroform on an ordinary inhaler or wad of cotton held near the nostrils of the patient. The hemorrhage will cease within 5 to 10 minutes, and during the following 24 or 48 hours the patient will be bringing up blood clots. The inhalation of from 15 to 20 drops every hour is continued for a few days and ammonium chlorid, with small doses of codein, is given internally every 4 hours to expel the retained secretions and prevent excessive coughing. It is a good plan, he says, also to give a teaspoonful of magnesium sulphate to keep the bowels free. In the limited number of cases in which he has used this treatment the results have been all that could be desired, and he recommends it to further trial by others.

A Comment on Cystogen Lithia.—The Cystogen Chemical Co., St. Louis. Dear Sir:—Your package of Cystogen reached me safely and I have been giving it an honest trial. As a result of infection, carelessly contracted from handling a case of eczema, which laid me up for eight weeks with an enlarged lymphatic gland, and a subsequent attack of grippe, which added four weeks more to my indisposition, my liver and kidneys got into a very bad condition.

I commenced the use of the Cystogen Lithia with some doubt as to its efficiency, but the results have been most satisfactory. Instead of being awakened every hour of the night by an accumulation of irritating urine, I seldom awake for the entire night, and never more than once. I find my liver and kidneys working perfectly, which is remarkable for an old chap of 72, since the greatest nuisance that a man meets with after his three-score years and ten is an ill-behaved bladder.

I am more than satisfied with the action of the Cystogen Lithia tablets, and they dissolve perfectly, leaving actually no sediment.

You are at liberty to use this endorsement in any form or manner you please.

Sincerely yours,
(Signed) Dr. Jas. R. Phelps,
Dorchester, Mass.

May 8, 1909.

THE GASTRIC NEUROSES.—In all functional derangements of the nervous mechanism of the stomach, Gray's Glycerine Tonic Comp. will be found of extraordinary therapeutic value. Its action is manifold, manifested by an immediate influence on the gastric tissues and a substantial promotion of the general nutrition. As the secretory and motor functions are improved, the patient's whole condition is correspondingly benefited.

CHOREA.—The nervous system in every case of St. Vitus' dance shows a more or less marked depreciation of functional vitality. Valuable as nearly always will be found some preparation of arsenic—Fowler's solution usually—many practitioners have grown to place great reliance on the preliminary or coincidental use of Gray's Glycerine Tonic Comp. The tonic reconstructive effect of this eligible preparation is promptly manifested by a substantial improvement of all vital functions and a very pronounced augmentation of so-called nervous stability. The following prescription with suitable rest, diet and regulation of the hygience, is without a peer:

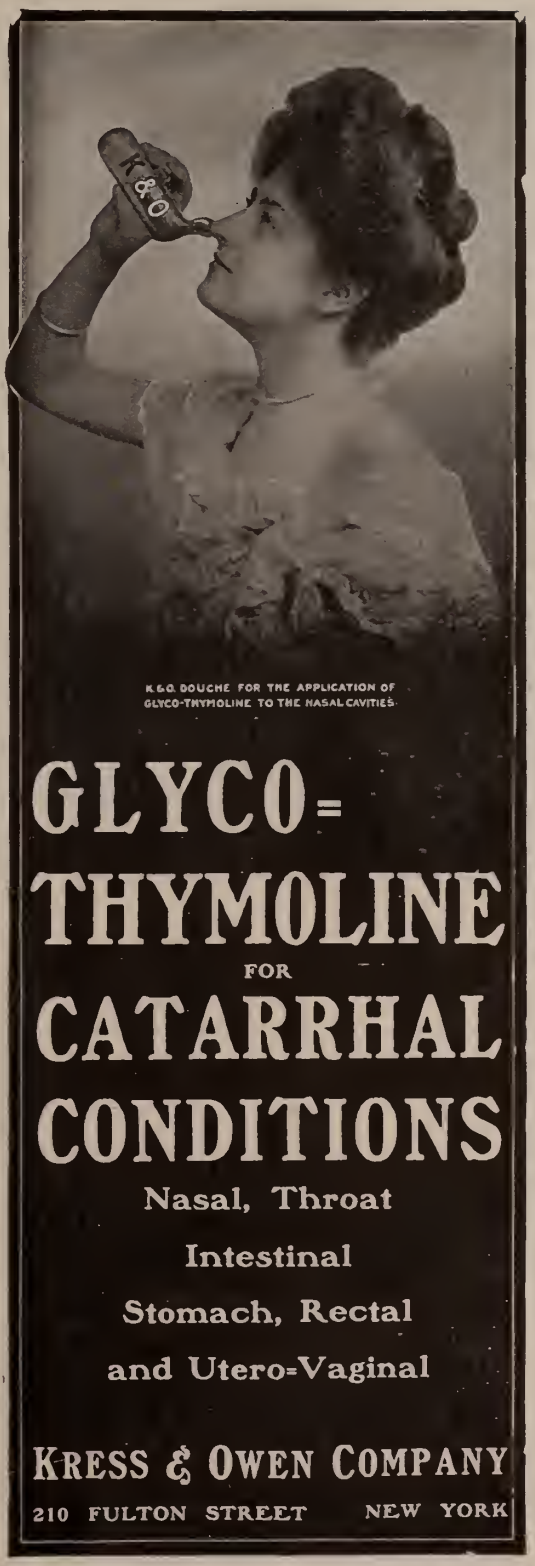
℞ Lig. Potass. Arsenitis 3iss
Gray's Glycerine Tonic Comp.....3viii
(P. F. &. Co.)

M. et Sig: A teaspoonful in water three times a day for a child eight years old.

THE SECOND SUMMER.—There is no denying that the second or "teething summer" is usually a hard one for the babies. Digestive disturbances are common and the "wear and tear" on a little one's nervous system is often severe. The systematic use of Gray's Glycerine Tonic Comp., however, in doses of twenty to thirty drops, three times a day will obviate many if not all of the distressing complications that make the second summer such a bugbear. The baby's digestion improves, its assimilation of nutriment is aided and its whole vitality is so materially elevated that the teething process becomes a negligible factor, at least so far as the general health is concerned.

The formula of Gray's Glycerine Tonic Comp. adapts it particularly to the needs of growing infants that show the slightest digestive or other weakness. Clinical experience is a dependable guide, and countless infants have been carried over critical periods by the judicious use of this effective remedy. At such times it has proven time and again a true therapeutic friend to zealous, painstaking practitioners.

THE IMPORTANCE OF NUTRITIVE REPAIR—in the treatment of all bodily disorders, associated with loss of weight and general vitality, is too patent to need more than passing emphasis. The question of how best to bring about such a desirable result is, however, one that the physician is daily called upon to answer, and upon his ability to "build up" his more or less devitalized patients will largely depend his success in the treatment of chronic affections. Taking, for example, a patient suffering from Pulmonary Tuberculosis in the incipient or secondary stage, what are the approved measures to adopt to bring about improvement of nutrition and a consequent gain of weight and strength? All phthisio-therapists



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Philadelphia, Pa., 812 N. Broad St.
Pittsburg, Pa., 4246 Fifth Ave.
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Toronto, Ont., Can.
Winnipeg, Manitoba.
London, Eng.

now agree that the therapeutic trinity of salvation for the tuberculous invalid is composed of: 1—Fresh, pure air, in abundance, both night and day; 2—A properly balanced ample supply of nutritious food; 3—Plenty of rest, especially during the febrile period.

While medication is useless, unless the patient is properly fed, "ventilated" and rested, as above referred to, there is no doubt that intelligent medical treatment, designed to promote nutrition, is indicated in a majority of cases. If the tuberculous patient has been neglected, for any length of time, some degree of anemia is almost always present. In such cases, an absolutely bland, non-irritant, readily tolerable and assimilable form of iron, such as exists in Pepto-Mangan (Gude), cannot be but of benefit, by stimulating the formation of erythrocytes and hemoglobin, and thus augmenting the oxygen-bearing potency of the blood. Metabolic interchange is thus quickened, better absorption and assimilation of food follows, and as a consequence, nutritive repair is encouraged and hastened.

Exterminating Rats.—Vermont in general and Burlington in particular might do well to follow the example of cities here and there through the country and begin a campaign against rats. It is announced that Louisiana is about to take up the subject of rat extermination as a means toward prevention of disease, and to that end her Health Commissioner, Dr. Dillon, has gone to the Pacific coast to study the methods successfully employed there. Dr. Dillon hopes to put in practice in New Orleans the plans that San Francisco, during its plague scare, adopted to keep infected rats from landing from vessels and spreading contagious diseases.

Let us follow suit. *A bas re rat!*

The Woman Who Went the Rounds.—First she consulted the corner druggist, who sold her a patent medicine containing 40 per cent. of alcohol, which made her feel boozily easy when she took enough of the "dope." So one day, when she had imbibed more than usual, she signed a testimonial stating how she had been "cured" of all her troubles. But she was duly punished, for the very next day she felt worse than ever before.

Next she went to a burly osteopath, who exerted himself to the utmost. He pulled her legs, wiggled her toes, crushed her ribs, wrenched her arms, wrung her neck and broke her back. So, to save her life, she fled from his presence.

Then she resorted to one of those nice, fat old ladies who "practice" "Christian Science," by whom she was informed that it wasn't really necessary for her to come regularly to the sanctum—just pay $30 a month, and "Ich und Gott" would do the rest. But the only thing "done" was the patient.

After this she dallied with various forms of mental moonshine, such as "high potencies," "divine science" (diluted Eddyism) and "new thought" (reviewed historically by Plato). But none of these appeared to fit her case.

Now came the turn of the specialists—all good men and true, skilled with their tools and indispensable to the profession, but some of them mentally just a little lopsided. One washed out her stomach every day; and another, her bladder. A third took a reef in her right kidney, and a fourth lightened her womb trachelorraphycally. A fifth did a submucous resection of the nasal septum, and a sixth ablated the "valves" of the rectum. All these procedures were without avail, and when it was proposed to excise that seat of sorrows, the big bowel, she balked and shied.

Finally, in her agony and despair, an inspiration came. She sought the advice of the old family physician who had helped nature bring her into the world. He gave her iron and arsenic; beefsteak, bread and butter, eggs and milk; time to rest and seclusion from fool friends. The roses came back to her cheeks, the cry of the nerves for pure blood ceased, the wheels of life began to circle without friction, and she was well and happy ever after.—*Denver Medical Times* and *Utah Medical Journal.*

X-RAYS.

I care not for the Roentgen craze—
The question to perplex
Is not how to produce X-rays,
But how to raise the X.
—*Charles Follen Adams.*

SUCCESSFUL OPERATIONS.

They removed the patient's gizzard, chopped his ilium away;
They took out his pink appendix and his largest vertebra;
Set him breathing through a goose-quill they inserted in his throttle.
Took his liver from its moorings and preserved it in a bottle.
In the lining of his stomach they discerned a little flaw—
They dispensed with it, replaced it with a throbbing ostrich craw.
Many another inward trinket they hacked out of him beside—
All "successful operations"—but the patient, strangely, died.

A "successful operation," in the lingo of the craft,
Is the one that lets him excavate your person, fore and aft;
Lets them make a cross-wise section of the gourd that holds your brain,
Lets them whittle out the fixtures they declare were made in vain.
"What a dreadful ignoramus the Creator was!" they sigh;
"All these things had been omitted, were He wise as you and I."



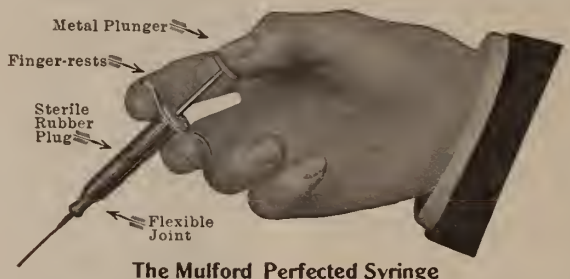
Then they whet their little scalpels, lay your epidermis bare,
And with "skilful operations" send you up the golden stair.

Oh, my brother, when you find me mussing up a railroad track,
With my legs and lights and sweetbreads piled up neatly on my back,
Do not notify a surgeon—let me die in peace or pieces;
I am wearied out with reading of the numerous deceases
That result when they "successfully" have operated on
Some poor devil who has swallowed all their anesthetic con.
Gently—ah, but surely!—kill me while I fight, with fleeting breath,
'Gainst "successful operations" that result in certain death. —*Health Culture.*

THE H. K. MULFORD COMPANY OBTAINS THE GRAND PRIZES AND GOLD MEDAL AT THE ALASKA-YUKON-PACIFIC EXPOSITION

The Director of Exhibits of the Alaska-Yukon-Pacific Exposition announces that the Jury of Awards has awarded the H. K. Mulford Company, of Philadelphia, the Grand Prize for Antitoxin and Special Syringe Container, the Grand Prizes on Tuberculins and Serial Dilutions of same, and the Gold Medal for Biological Products—the highest awards granted.

The H. K. Mulford Company are to be congratulated upon their triumph. The Grand Prize on Antitoxin and Special Container is a special honor, not only in recognizing the excellence of the Mulford antitoxin, but their constant efforts to improve and perfect the production of antitoxin, especially in increasing the potency of the sera, reducing the bulk for administration, and their perfection of the syringe package. The latest Mulford syringe undoubtedly represents the greatest improvement of this approved style of container.



The Mulford Perfected Syringe

The jury, in awarding the grand prizes on tuberculins of graduated potency, bacterins (bacterial vaccines) and vaccines, recognized the H. K. Mulford Company as the leading house engaged in the manufacture of these products.

The jury also recognized the importance of bacterins and of tuberculins of graduated potency as therapeutic agents by grouping them with vaccines employed for the prevention of smallpox. Antitoxins, bacterins and vaccines are three epoch-making products, representing the highest scientific advancement for the prevention and treatment of disease.

The method of graduating the dosage of tuberculin by serial dilutions has made tuberculin therapy comparatively safe in the hands of the general practitioner. When it is considered that the initial dose of this potent agent is 1-10,000 of a milligram—a portion almost inconceivably small—and that the increase in doses must be graded so carefully that it requires from six months to a year before the dose of one milligram can be given, the advantage is apparent of having a graded system of dosage so arranged that each dose can be accurately determined by increasing by two drops the dose of the serial dilution.

Every dose of Mulford's Antitoxin and Curative Sera is furnished in the Mulford Perfected Syringe, which possesses the following advantages:

It is thoroughly aseptic, rendering contamination impossible.

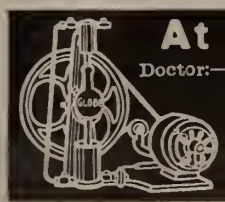
The metal plunger screws into the rubber plug, adjusting pressure and making action positive.

The metal finger-rest with rubber guard at top of syringe prevents any possibility of the syringe breaking or injuring the operator's hand.

The needle is attached with flexible rubber, permitting motion of patient without danger of tearing the skin.

The special adjustable rubber has great advantage over other packing, as it does not shred, absorb serum, or become pulpy. This syringe is simple and accurate, having no parts to get out of order.

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GLOBE MANUFACTURING CO., Battle Creek, Mich.

A KEEN LAD.—"I had always heard that New Englanders were 'smart,'" a young physician who has "graduated" from a village practice remarked the other day, "but hardly thought it developed at such an early age."

He smiled reminiscently, then continued:

"Just after I settled in Dobbs Corners a twelve year old boy called on me one evening.

"'Say, Doc, I guess I got measles,' he remarked, 'but nobody knows it 'cept the folks at home, and they ain't the kind that talks, if there's any good reason to keep quiet.'

"I was puzzled, and I suppose I looked it.

"'Aw, get wise, Doc,' my small visitor suggested. 'What will you give me to go to school an' spread it among all the kids in the village?'"—September *Lippincott's*.

FORGETFUL.—A minister's wife, a traveling man's wife and a doctor's wife met one day recently and were talking about the forgetfulness of their husbands.

The minister's wife thought her husband was the most forgetful man living, because he would go to church and forget his notes and no one could make out what he was trying to preach about.

The traveling man's wife thought her husband was the most forgetful, for he would often start out to see his customers and forget his sample case and, therefore, travel miles for nothing.

"Well," said the doctor's wife, "my husband beats that. He came home the other day and patted me on the cheek and said, 'I believe I have seen you before, little girl. What is your name?'"—*Tit-Bits*.

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The University of Vermont College of Medicine, can now offer to students opportunities for the study of medicine that are second to few institutions. Situated in a beautiful town free from many of the distracting influences of a large city and furnishing the advantages of a metropolitan school at a nominal expense, the College of Medicine is prepared to give students more for their money than most schools of medicine.

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EXPERIENCED.—A mother of a seven-year-old lad was daily expecting a visit from the stork and found the little fellow's conduct so annoying that his father was called upon to interfere.

"Bobby," said papa, "Mama is quite ill and we are afraid that if you are not a better boy and mind your mother, it will bring on a crisis. Now, my boy, perhaps you don't know what a crisis is."

"Oh, yes, I do, papa," said Bobby blythely, "it's either a boy or a girl."—*Judge.*

LAYMEN RIVAL THE DOCTORS.—Confirming the recent statement of Dr. William Osler that the anti-tuberculosis campaign is no longer a battle for the doctors only, the National Association for the Study and Prevention of Tuberculosis issues a statement in which it is shown that over 45 per cent. of those enlisted in the white plague war are laymen.

The National Association's membership, consisting of nearly 2,500, and representing every state in the Union, is composed of 54.6 per cent. doctors and 45.4 per cent. laymen. In the local and state associations, however, throughout the country, the percentage of laymen averages considerably over 50 per cent. The National Association declares that this fact is peculiarly significant, as indicating the great popularity of the anti-tuberculosis movement.—*Western Med. Review.*

BOILS.—Geo. Thomas Jackson (*Am. Jour. Med. Sci.,*) gives a simple and very satisfactory treatment for boils. As soon as the area of inflammation is noticed it is covered with a five per cent. salicylic acid ointment. This ofttimes will abort the formation of pus. If the boil already points when first seen, he bores into the softened part with a sharpened stick covered with absorbent cotton dipped in pure carbolic acid. He cautions against squeezing the boil. After puncturing he covers the boil and the surrounding skin with the salicylic acid ointment, thus averting liability of other boils occurring from infecting surrounding hair follicles.—*The Medical Herald.*

A Delightful Revelation.

¶ The value of senna as a laxative is well known to the medical profession, but to the physician accustomed to the ordinary senna preparations, the gentle yet efficient action of the pure laxative principles correctly obtained and scientifically combined with a pleasant aromatic syrup of Californian figs is a delightful revelation, and in order that the name of the laxative combination may be more fully descriptive of it, we have added to the name Syrup of Figs "and Elixir of Senna," so that its full title now is "Syrup of Figs and Elixir of Senna."

¶ It is the same pleasant, gentle laxative, however, which for many years past physicians have entrusted to domestic use because of its non-irritant and non-debilitating character, its wide range of usefulness and its freedom from every objectionable quality. It is well and generally known that the component parts of Syrup of Figs and Elixir of Senna are as follows:—

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¶ Syrup of Figs and Elixir of Senna is an ethical proprietary remedy and has been mentioned favorably, as a laxative, in the medical literature of the age, by some of the most eminent living authorities. The method of manufacture is known to us only, but we have always informed the profession fully, as to its component parts. It is, therefore, not a secret remedy, and we make no empirical claims for it. The value of senna, as a laxative, is too well known to physicians to call for any special comment, but in this scientific age, it is important to get it in its best and most acceptable form and of the choicest quality, which we are enabled to offer in Syrup of Figs and Elixir of Senna, as our facilities and equipment are exceptional and our best efforts devoted to the one purpose.

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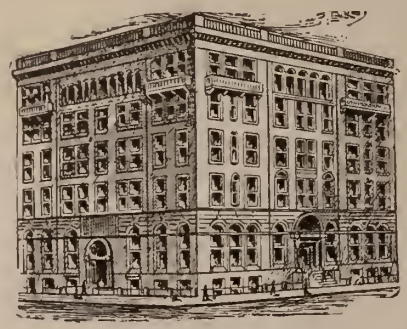
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